

N/A

1643

PAGE: 1

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:36

INPUT SET: S31474.raw

This Raw Listing contains the General  
Information Section and those Sequences  
containing ERRORS.

SEQUENCE LISTING

(1) General Information:

(i) APPLICANT: Malcolm, Bruce  
Taremi, Shahriar S.  
Weber, Patricia  
Yao, Nanhua

(ii) TITLE OF INVENTION: Covalent Complexes of Hepatitis C Virus  
NS3 Protease and NS4A Cofactor Peptide

(iii) NUMBER OF SEQUENCES: 123

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Schering-Plough Corp.  
(B) STREET: 2000 Galloping Hill Road  
(C) CITY: Kenilworth  
(D) STATE: New Jersey  
(E) COUNTRY: USA  
(F) ZIP: 07030

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: Power Macintosh  
(C) OPERATING SYSTEM: 8.0.1  
(D) SOFTWARE: Microsoft Word 6.0.1

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: US 09/198,723  
(B) FILING DATE: 24 NOV 1998  
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: McLaughlin, Jaye P.  
(B) REGISTRATION NUMBER: 41,211  
(C) REFERENCE/DOCKET NUMBER: JB0800

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (908)298-5056  
(B) TELEFAX: (908)298-5388

Does Not Comply  
Corrected Diskette Needed

-->

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:36

INPUT SET: S31474.raw

46

## ERRORED SEQUENCES FOLLOW:

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4108 (2) INFORMATION FOR SEQ ID NO:92:
4109
4110 (i) SEQUENCE CHARACTERISTICS:
4111 (A) LENGTH: 651 base pairs
4112 (B) TYPE: nucleic acid
4113 (C) STRANDEDNESS: single
4114 (D) TOPOLOGY: linear
4115
4116 (ii) MOLECULE TYPE: cDNA
4117
4118
4119
4120 (ix) FEATURE:
4121 (A) NAME/KEY: CDS
4122 (B) LOCATION: 1..651
4123
4124
4125 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:
4126
4127 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG 48
4128 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4129 1 5 10 15
4130
4131 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA 96
4132 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4133 20 25 30
4134
4135 TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA 144
4136 Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4137 35 40 45
4138
4139 CTT GGT TGC ATC ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC 192
4140 Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4141 50 55 60
4142
4143 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG 240
4144 Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4145 65 70 75 80
4146
4147 ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA 288
4148 Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4149 85 90 95
4150
4151 AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT 336
4152 Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4153 100 105 110

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# RAW SEQUENCE LISTING

## PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:37

INPUT SET: S31474.raw

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4154
4155 GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC 384
4156 Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4157          115          120          125
4158
4159 TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA 432
4160 Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4161          130          135          140
4162
4163 CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC 480
4164 His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4165 145          150          155          160
4166
4167 CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT 528
4168 Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly
4169          165          170          175
4170
4171 CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC 576
4172 Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4173          180          185          190
4174
4175 GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG 624
4176 Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4177          195          200          205
4178
4179 TCC ATG GAA ACT ACT ATG CGG TCT TGA 651
4180 Ser Met Glu Thr Thr Met Arg Ser
4181 210          215
4182
4183 (i) SEQUENCE CHARACTERISTICS: Insert a hard return
4184 (A) LENGTH: 651 base pairs
4185 (B) TYPE: nucleic acid
4186 (C) STRANDEDNESS: single
4187 (D) TOPOLOGY: linear
4188
4189 (ii) MOLECULE TYPE: DNA (genomic)
4190
4191
4192
4193 (ix) FEATURE:
4194 (A) NAME/KEY: CDS
4195 (B) LOCATION: 1..651
4196
4197
--> 4198 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:
4199
4200 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG 48
4201 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4202 1          5          10          15
4203
4204 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA 96
4205 Arg Gly Ser His Met Gly Ser Val Ile Val Gly Arg Ile Ile Leu
4206          20          25          30

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:37

INPUT SET: S31474.raw

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4207
4208   TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4209   Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4210           35                      40                      45
4211
4212   CTT GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4213   Leu Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4214           50                      55                      60
4215
4216   GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
4217   Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4218           65                      70                      75                      80
4219
4220   ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4221   Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4222           85                      90                      95
4223
4224   AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
4225   Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4226           100                     105                     110
4227
4228   GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
4229   Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4230           115                     120                     125
4231
4232   TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
4233   Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4234           130                     135                     140
4235
4236   CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4237   His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4238           145                     150                     155                     160
4239
4240   CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT      528
4241   Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly
4242           165                     170                     175
4243
4244   CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4245   Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4246           180                     185                     190
4247
4248   GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG      624
4249   Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4250           195                     200                     205
4251
4252   TCC ATG GAA ACT ACT ATG CGG TCT TGA      651
4253   Ser Met Glu Thr Thr Met Arg Ser
4254           210                     215

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(2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 651 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:37

INPUT SET: S31474.raw

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4260          (D) TOPOLOGY: linear
4261
4262      (ii) MOLECULE TYPE: DNA (genomic)
4263
4264
4265      (ix) FEATURE:
4266          (A) NAME/KEY: CDS
4267          (B) LOCATION: 1..651
4268
4269
--> 4270      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:
4271
4272      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4273      Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4274      1          5          10          15
4275
4276      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4277      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4278      20          25          30
4279
4280      TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4281      Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4282      35          40          45
4283
4284      CTT GGT TGC ATC AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4285      Leu Gly Cys Ile Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4286      50          55          60
4287
4288      GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
4289      Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4290      65          70          75          80
4291
4292      ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4293      Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4294      85          90          95
4295
4296      AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
4297      Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4298      100          105          110
4299
4300      GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
4301      Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4302      115          120          125
4303
4304      TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
4305      Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4306      130          135          140
4307
4308      CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4309      His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4310      145          150          155          160
4311
4312      CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT      528

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:38

INPUT SET: S31474.raw

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4313 Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly
4314                               165                               170                               175
4315
4316 CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4317 Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4318                               180                               185                               190
4319
4320 GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG      624
4321 Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4322                               195                               200                               205
4323
4324 TCC ATG GAA ACT ACT ATG CGG TCT TGA      651
4325 Ser Met Glu Thr Thr Met Arg Ser
4326      210                               215
4327
4328 (i) SEQUENCE CHARACTERISTICS:
4329 (A) LENGTH: 651 base pairs
4330 (B) TYPE: nucleic acid
4331 (C) STRANDEDNESS: single
4332 (D) TOPOLOGY: linear
4333
4334 (ii) MOLECULE TYPE: DNA (genomic)
4335
4336
4337 (ix) FEATURE:
4338 (A) NAME/KEY: CDS
4339 (B) LOCATION: 1..651
4340
4341
--> 4342 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:
4343
4344 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4345 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4346      1                               5                               10                               15
4347
4348 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4349 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4350                               20                               25                               30
4351
4352 TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4353 Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4354                               35                               40                               45
4355
4356 CTT GGT TGC AAG AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4357 Leu Gly Cys Lys Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4358      50                               55                               60
4359
4360 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
4361 Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4362      65                               70                               75                               80
4363
4364 ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4365 Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:38

INPUT SET: S31474.raw

	85	90	95	
4366				
4367				
4368	AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT			336
4369	Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn			
4370	100	105	110	
4371				
4372	GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC			384
4373	Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser			
4374	115	120	125	
4375				
4376	TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA			432
4377	Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg			
4378	130	135	140	
4379				
4380	CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC			480
4381	His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser			
4382	145	150	155	160
4383				
4384	CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT			528
4385	Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly			
4386	165	170	175	
4387				
4388	CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC			576
4389	Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala			
4390	180	185	190	
4391				
4392	GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG			624
4393	Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu			
4394	195	200	205	
4395				
4396	TCC ATG GAA ACT ACT ATG CGG TCT TGA			651
4397	Ser Met Glu Thr Thr Met Arg Ser			
4398	210	215		
4399				
4400	(i) SEQUENCE CHARACTERISTICS:			
4401	(A) LENGTH: 651 base pairs			
4402	(B) TYPE: nucleic acid			
4403	(C) STRANDEDNESS: single			
4404	(D) TOPOLOGY: linear			
4405				
4406	(ii) MOLECULE TYPE: cDNA			
4407				
4408				
4409				
4410	(ix) FEATURE:			
4411	(A) NAME/KEY: CDS			
4412	(B) LOCATION: 1..651			
4413				
4414				
4415	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:			
4416				
4417	ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG			48
4418	Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro			

(2) INFORMATION FOR SEQ ID NO:96:

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:38

INPUT SET: S31474.raw

	1	5	10	15	
4419					
4420					
4421	CGC	GGC	AGC	CAT	ATG
4422	Arg	Gly	Ser	His	Met
4423					
4424					
4425	TCT	GGT	AGT	GGT	AGT
4426	Ser	Gly	Ser	Gly	Ser
4427					
4428					
4429	CTT	GGT	TGC	ATC	ATC
4430	Leu	Gly	Cys	Ile	Ile
4431					
4432					
4433	GAG	GGA	GAG	GTT	CAG
4434	Glu	Gly	Glu	Val	Gln
4435					
4436					
4437	ACC	TGC	GTC	AAC	GGC
4438	Thr	Cys	Val	Asn	Gly
4439					
4440					
4441	AAG	ACC	TTA	GCC	GGC
4442	Lys	Thr	Leu	Ala	Gly
4443					
4444					
4445	GTG	GAC	CAG	GAC	CTC
4446	Val	Asp	Gln	Asp	Leu
4447					
4448					
4449	TTG	ACA	CCA	TGC	ACC
4450	Leu	Thr	Pro	Cys	Thr
4451					
4452					
4453	CAT	GCT	GAC	GTC	ATT
4454	His	Ala	Asp	Val	Ile
4455					
4456					
4457	CTG	CTC	TCC	CCC	AGG
4458	Leu	Leu	Ser	Pro	Arg
4459					
4460					
4461	CCA	CTG	CTC	TGC	CCT
4462	Pro	Leu	Leu	Cys	Pro
4463					
4464					
4465	GTA	TGC	ACC	CGG	GGG
4466	Val	Cys	Thr	Arg	Gly
4467					
4468					
4469	TCC	ATG	GAA	ACT	ACT
4470	Ser	Met	Glu	Thr	Thr
4471					

(2) INFORMATION FOR SEQ ID NO:97:



# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:39

INPUT SET: S31474.raw

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4472
4473      (i) SEQUENCE CHARACTERISTICS:
4474          (A) LENGTH: 651 base pairs
4475          (B) TYPE: nucleic acid
4476          (C) STRANDEDNESS: single
4477          (D) TOPOLOGY: linear
4478
4479      (ii) MOLECULE TYPE: cDNA
4480
4481
4482      (ix) FEATURE:
4483          (A) NAME/KEY: CDS
4484          (B) LOCATION: 1..651
4485
4486
--> 4487      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:
4488
4489      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4490      Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4491      1          5          10          15
4492
4493      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4494      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4495      20          25          30
4496
4497      TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4498      Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4499      35          40          45
4500
4501      CTT GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4502      Leu Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4503      50          55          60
4504
4505      GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
4506      Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4507      65          70          75          80
4508
4509      ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4510      Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4511      85          90          95
4512
4513      AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
4514      Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4515      100          105          110
4516
4517      GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
4518      Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4519      115          120          125
4520
4521      TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
4522      Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4523      130          135          140
4524

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:39

INPUT SET: S31474.raw

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4525 CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4526 His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4527 145                      150                      155                      160
4528
4529 CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT GCT GGT GGT      528
4530 Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ala Gly Gly
4531                      165                      170                      175
4532
4533 CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4534 Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4535                      180                      185                      190
4536
4537 GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG      624
4538 Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4539                      195                      200                      205
4540
4541 TCC ATG GAA ACT ACT ATG CGG TCT TGA      651
4542 Ser Met Glu Thr Thr Met Arg Ser
4543 210                      215

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(2) INFORMATION FOR SEQ ID NO:98:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 651 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..651

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

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--> 4559
4560
4561 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4562 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4563 1                      5                      10                      15
4564
4565 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4566 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4567                      20                      25                      30
4568
4569 TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4570 Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4571                      35                      40                      45
4572
4573 CTT GGT TGC ATC AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4574 Leu Gly Cys Ile Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4575                      50                      55                      60
4576
4577 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240

```

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:40

INPUT SET: S31474.raw

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4578  Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4579      65                      70                      75                      80
4580
4581  ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4582  Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4583                      85                      90                      95
4584
4585  AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
4586  Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4587                      100                      105                      110
4588
4589  GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
4590  Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4591                      115                      120                      125
4592
4593  TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
4594  Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4595                      130                      135                      140
4596
4597  CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4598  His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4599  145                      150                      155                      160
4600
4601  CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT GCT GGT GGT      528
4602  Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ala Gly Gly
4603                      165                      170                      175
4604
4605  CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4606  Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4607                      180                      185                      190
4608
4609  GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG      624
4610  Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4611                      195                      200                      205
4612
4613  TCC ATG GAA ACT ACT ATG CGG TCT TGA      651
4614  Ser Met Glu Thr Thr Met Arg Ser
4615      210                      215

```

(2) INFORMATION FOR SEQ ID NO:99:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 651 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..651

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:40

INPUT SET: S31474.raw

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--> 4631      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:
4632
4633      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4634      Met Gly Ser Ser His His His His His Ser Ser Gly Leu Val Pro
4635      1          5          10          15
4636
4637      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4638      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4639      20          25          30
4640
4641      TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4642      Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4643      35          40          45
4644
4645      CTT GGT TGC AAG AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4646      Leu Gly Cys Lys Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4647      50          55          60
4648
4649      GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
4650      Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4651      65          70          75          80
4652
4653      ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4654      Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4655      85          90          95
4656
4657      AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
4658      Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4659      100          105          110
4660
4661      GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
4662      Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4663      115          120          125
4664
4665      TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
4666      Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4667      130          135          140
4668
4669      CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4670      His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4671      145          150          155          160
4672
4673      CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT GCT GGT GGT      528
4674      Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ala Gly Gly
4675      165          170          175
4676
4677      CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4678      Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4679      180          185          190
4680
4681      GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG      624
4682      Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4683      195          200          205
```

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:40

INPUT SET: S31474.raw

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4684
4685 TCC ATG GAA ACT ACT ATG CGG TCT TGA 651
4686 Ser Met Glu Thr Thr Met Arg Ser
4687 210 215 (2) INFORMATION FOR SEQ ID NO:100:
4688
4689 (i) SEQUENCE CHARACTERISTICS:
4690 (A) LENGTH: 651 base pairs
4691 (B) TYPE: nucleic acid
4692 (C) STRANDEDNESS: single
4693 (D) TOPOLOGY: linear
4694
4695 (ii) MOLECULE TYPE: cDNA
4696
4697
4698 (ix) FEATURE:
4699 (A) NAME/KEY: CDS
4700 (B) LOCATION: 1..651
--> 4701 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:
4702
4703 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG 48
4704 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4705 1 5 10 15
4706
4707 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA 96
4708 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4709 20 25 30
4710
4711 TCT CCT GCT GGT GGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA 144
4712 Ser Pro Ala Gly Gly Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4713 35 40 45
4714
4715 CTT GGT TGC ATC ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC 192
4716 Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4717 50 55 60
4718
4719 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG 240
4720 Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4721 65 70 75 80
4722
4723 ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA 288
4724 Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4725 85 90 95
4726
4727 AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT 336
4728 Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4729 100 105 110
4730
4731 GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC 384
4732 Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4733 115 120 125
4734
4735 TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA 432
4736 Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg

```

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:41

INPUT SET: S31474.raw

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4737      130      135      140
4738
4739  CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4740  His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4741  145      150      155      160
4742
4743  CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT      528
4744  Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly
4745      165      170      175
4746
4747  CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4748  Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
4749      180      185      190
4750
4751  GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG      624
4752  Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu
4753      195      200      205
4754
4755  TCC ATG GAA ACT ACT ATG CGG TCT TGA      651
4756  Ser Met Glu Thr Thr Met Arg Ser
4757      210      215
4758
4759      (i) SEQUENCE CHARACTERISTICS:
4760          (A) LENGTH: 651 base pairs
4761          (B) TYPE: nucleic acid
4762          (C) STRANDEDNESS: single
4763          (D) TOPOLOGY: linear
4764
4765      (ii) MOLECULE TYPE: cDNA
4766
4767
4768      (ix) FEATURE:
4769          (A) NAME/KEY: CDS
4770          (B) LOCATION: 1..651
4771
4772
--> 4773      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:
4774
4775  ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4776  Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4777      1      5      10      15
4778
4779  CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4780  Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4781      20      25      30
4782
4783  TCT CCT GCT GGT GGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4784  Ser Pro Ala Gly Gly Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4785      35      40      45
4786
4787  CTT GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4788  Leu Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4789      50      55      60

```

(2) INFORMATION FOR SEQ ID NO:101:

**INPUT SET: S31474.raw**[illegible]

--> 4830 (2) INFORMATION FOR SEQ ID NO:102:

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4831
4832      (i) SEQUENCE CHARACTERISTICS:
4833          (A) LENGTH: 1998 base pairs
4834          (B) TYPE: nucleic acid
4835          (C) STRANDEDNESS: single
4836          (D) TOPOLOGY: linear
4837
4838      (ii) MOLECULE TYPE: cDNA
4839
4840
4841

```

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:41

INPUT SET: S31474.raw

```

4842      (ix) FEATURE:
4843          (A) NAME/KEY: CDS
4844          (B) LOCATION: 1..1998
4845
4846
4847      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:
4848
4849      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
4850      Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
4851          1                      5                      10                      15
4852
4853      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
4854      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
4855          20                      25                      30
4856
4857      TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
4858      Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
4859          35                      40                      45
4860
4861      CTT GGT TGC ATC ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
4862      Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
4863          50                      55                      60
4864
4865      GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
4866      Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
4867          65                      70                      75                      80
4868
4869      ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
4870      Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
4871          85                      90                      95
4872
4873      AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
4874      Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
4875          100                      105                      110
4876
4877      GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
4878      Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
4879          115                      120                      125
4880
4881      TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
4882      Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
4883          130                      135                      140
4884
4885      CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
4886      His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
4887          145                      150                      155                      160
4888
4889      CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT      528
4890      Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly
4891          165                      170                      175
4892
4893      CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
4894      Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:42

INPUT SET: S31474.raw

	180	185	190	
4895				
4896				
4897	GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG			624
4898	Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu			
4899	195	200	205	
4900				
4901	TCC ATG GAA ACT ACT ATG CGG TCT CCG GTC TTC ACG GAC AAC TCA TCC			672
4902	Ser Met Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser			
4903	210	215	220	
4904				
4905	CCC CCG GCC GTA CCG CAG TCA TTT CAA GTG GCC CAC CTA CAC GCT CCC			720
4906	Pro Pro Ala Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro			
4907	225	230	235	240
4908				
4909	ACT GGC AGC GGC AAG AGT ACT AAA GTG CCG GCT GCA TAT GCA GCC CAA			768
4910	Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln			
4911	245	250	255	
4912				
4913	GGG TAC AAG GTG CTC GTC CTC AAT CCG TCC GTT GCC GCT ACC TTA GGG			816
4914	Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly			
4915	260	265	270	
4916				
4917	TTT GGG GCG TAT ATG TCT AAG GCA CAC GGT ATT GAC CCC AAC ATC AGA			864
4918	Phe Gly Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg			
4919	275	280	285	
4920				
4921	ACT GGG GTA AGG ACC ATT ACC ACA GGC GCC CCC GTC ACA TAC TCT ACC			912
4922	Thr Gly Val Arg Thr Ile Thr Thr Gly Ala Pro Val Thr Tyr Ser Thr			
4923	290	295	300	
4924				
4925	TAT GGC AAG TTT CTT GCC GAT GGT GGT TGC TCT GGG GGC GCT TAT GAC			960
4926	Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp			
4927	305	310	315	320
4928				
4929	ATC ATA ATA TGT GAT GAG TGC CAT TCA ACT GAC TCG ACT ACA ATC TTG			1008
4930	Ile Ile Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu			
4931	325	330	335	
4932				
4933	GGC ATC GGC ACA GTC CTG GAC CAA GCG GAG ACG GCT GGA GCG CGG CTT			1056
4934	Gly Ile Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu			
4935	340	345	350	
4936				
4937	GTC GTG CTC GCC ACC GCT ACG CCT CCG GGA TCG GTC ACC GTG CCA CAC			1104
4938	Val Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His			
4939	355	360	365	
4940				
4941	CCA AAC ATC GAG GAG GTG GCC CTG TCT AAT ACT GGA GAG ATC CCC TTC			1152
4942	Pro Asn Ile Glu Glu Val Ala Leu Ser Asn Thr Gly Glu Ile Pro Phe			
4943	370	375	380	
4944				
4945	TAT GGC AAA GCC ATC CCC ATT GAA GCC ATC AGG GGG GGA AGG CAT CTC			1200
4946	Tyr Gly Lys Ala Ile Pro Ile Glu Ala Ile Arg Gly Gly Arg His Leu			
4947	385	390	395	400

**INPUT SET: S31474.raw**

4948																		
4949	ATT	TTC	TGT	CAT	TCC	AAG	AAG	AAG	TGC	GAC	GAG	CTC	GCC	GCA	AAG	CTG		1248
4950	Ile	Phe	Cys	His	Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu		
4951					405					410					415			
4952																		
4953	TCA	GGC	CTC	GGA	ATC	AAC	GCT	GTG	GCG	TAT	TAC	CGG	GGG	CTC	GAT	GTG		1296
4954	Ser	Gly	Leu	Gly	Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val		
4955				420					425					430				
4956																		
4957	TCC	GTC	ATA	CCA	ACT	ATC	GGA	GAC	GTC	GTT	GTC	GTG	GCA	ACA	GAC	GCT		1344
4958	Ser	Val	Ile	Pro	Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala		
4959			435					440					445					
4960																		
4961	CTG	ATG	ACG	GGC	TAT	ACG	GGC	GAC	TTT	GAC	TCA	GTG	ATC	GAC	TGT	AAC		1392
4962	Leu	Met	Thr	Gly	Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn		
4963		450					455					460						
4964																		
4965	ACA	TGT	GTC	ACC	CAG	ACA	GTC	GAC	TTC	AGC	TTG	GAT	CCC	ACC	TTC	ACC		1440
4966	Thr	Cys	Val	Thr	Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr		
4967	465					470					475					480		
4968																		
4969	ATT	GAG	ACG	ACG	ACC	GTG	CCT	CAA	GAC	GCA	GTG	TCG	CGC	TCG	CAG	CGG		1488
4970	Ile	Glu	Thr	Thr	Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg		
4971					485					490					495			
4972																		
4973	CGG	GGT	AGG	ACT	GGC	AGG	GGT	AGG	AGA	GGC	ATC	TAC	AGG	TTT	GTG	ACT		1536
4974	Arg	Gly	Arg	Thr	Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr		
4975				500					505					510				
4976																		
4977	CCG	GGA	GAA	CGG	CCC	TCG	GGC	ATG	TTC	GAT	TCC	TCG	GTC	CTG	TGT	GAG		1584
4978	Pro	Gly	Glu	Arg	Pro	Ser	Gly	Met	Phe	Asp	Ser	Ser	Val	Leu	Cys	Glu		
4979			515					520					525					
4980																		
4981	TGC	TAT	GAC	GCG	GGC	TGT	GCT	TGG	TAC	GAG	CTC	ACC	CCC	GCC	GAG	ACC		1632
4982	Cys	Tyr	Asp	Ala	Gly	Cys	Ala	Trp	Tyr	Glu	Leu	Thr	Pro	Ala	Glu	Thr		
4983		530					535					540						
4984																		
4985	TCG	GTT	AGG	TTG	CGG	GCC	TAC	CTG	AAC	ACA	CCA	GGG	TTG	CCC	GTT	TGC		1680

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:42

INPUT SET: S31474.raw

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5001 CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA      1872
5002 Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys
5003      610                      615                      620
5004
5005 CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC      1920
5006 Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val
5007      625                      630                      635                      640
5008
5009 CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA      1968
5010 Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala
5011                      645                      650                      655
5012
5013 TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT      1998
5014 Cys Met Ser Ala Asp Leu Glu Val Val Thr
5015                      660                      665
5016
5017 (i) SEQUENCE CHARACTERISTICS:
5018 (A) LENGTH: 1998 base pairs
5019 (B) TYPE: nucleic acid
5020 (C) STRANDEDNESS: single
5021 (D) TOPOLOGY: linear
5022
5023 (ii) MOLECULE TYPE: cDNA
5024
5025
5026 (ix) FEATURE:
5027 (A) NAME/KEY: CDS
5028 (B) LOCATION: 1..1998
5029
5030
5031
--> 5032 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:
5033
5034 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
5035 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
5036      1                      5                      10                      15
5037
5038 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
5039 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
5040                      20                      25                      30
5041
5042 TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
5043 Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
5044                      35                      40                      45
5045
5046 CTT GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
5047 Leu Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
5048                      50                      55                      60
5049
5050 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
5051 Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
5052      65                      70                      75                      80
5053

```

(2) INFORMATION FOR SEQ ID NO:103:

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:43

INPUT SET: S31474.raw

5054	ACC	TGC	GTC	AAC	GGC	GTG	TGT	TGG	ACC	GTT	TAC	CAT	GGT	GCT	GGC	TCA	288
5055	Thr	Cys	Val	Asn	Gly	Val	Cys	Trp	Thr	Val	Tyr	His	Gly	Ala	Gly	Ser	
5056					85					90					95		
5057																	
5058	AAG	ACC	TTA	GCC	GGC	CCA	AAG	GGG	CCA	ATC	ACC	CAG	ATG	TAC	ACT	AAT	336
5059	Lys	Thr	Leu	Ala	Gly	Pro	Lys	Gly	Pro	Ile	Thr	Gln	Met	Tyr	Thr	Asn	
5060				100					105						110		
5061																	
5062	GTG	GAC	CAG	GAC	CTC	GTC	GGC	TGG	CAG	GCG	CCC	CCC	GGG	GCG	CGT	TCC	384
5063	Val	Asp	Gln	Asp	Leu	Val	Gly	Trp	Gln	Ala	Pro	Pro	Gly	Ala	Arg	Ser	
5064			115					120						125			
5065																	
5066	TTG	ACA	CCA	TGC	ACC	TGT	GGC	AGC	TCA	GAC	CTT	TAC	TTG	GTC	ACG	AGA	432
5067	Leu	Thr	Pro	Cys	Thr	Cys	Gly	Ser	Ser	Asp	Leu	Tyr	Leu	Val	Thr	Arg	
5068		130					135					140					
5069																	
5070	CAT	GCT	GAC	GTC	ATT	CCG	GTG	CGC	CGG	CGG	GGC	GAC	AGT	AGG	GGG	AGC	480
5071	His	Ala	Asp	Val	Ile	Pro	Val	Arg	Arg	Arg	Gly	Asp	Ser	Arg	Gly	Ser	
5072	145					150					155					160	
5073																	
5074	CTG	CTC	TCC	CCC	AGG	CCT	GTC	TCC	TAC	TTG	AAG	GGC	TCT	TCG	GGT	GGT	528
5075	Leu	Leu	Ser	Pro	Arg	Pro	Val	Ser	Tyr	Leu	Lys	Gly	Ser	Ser	Gly	Gly	
5076					165					170					175		
5077																	
5078	CCA	CTG	CTC	TGC	CCT	TCG	GGG	CAC	GCT	GTG	GGC	ATC	TTC	CGG	GCT	GCC	576
5079	Pro	Leu	Leu	Cys	Pro	Ser	Gly	His	Ala	Val	Gly	Ile	Phe	Arg	Ala	Ala	
5080				180					185					190			
5081																	
5082	GTA	TGC	ACC	CGG	GGG	GTT	GCG	AAG	GCG	GTG	GAC	TTT	GTG	CCC	GTA	GAG	624
5083	Val	Cys	Thr	Arg	Gly	Val	Ala	Lys	Ala	Val	Asp	Phe	Val	Pro	Val	Glu	
5084			195					200					205				
5085																	
5086	TCC	ATG	GAA	ACT	ACT	ATG	CGG	TCT	CCG	GTC	TTC	ACG	GAC	AAC	TCA	TCC	672
5087	Ser	Met	Glu	Thr	Thr	Met	Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser	
5088		210					215					220					
5089																	
5090	CCC	CCG	GCC	GTA	CCG	CAG	TCA	TTT	CAA	GTG	GCC	CAC	CTA	CAC	GCT	CCC	720
5091	Pro	Pro	Ala	Val	Pro	Gln	Ser	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro	
5092	225					230					235				240		
5093																	
5094	ACT	GGC	AGC	GGC	AAG	AGT	ACT	AAA	GTG	CCG	GCT	GCA	TAT	GCA	GCC	CAA	768
5095	Thr	Gly	Ser	Gly	Lys	Ser	Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln	
5096					245					250					255		
5097																	
5098	GGG	TAC	AAG	GTG	CTC	GTC	CTC	AAT	CCG	TCC	GTT	GCC	GCT	ACC	TTA	GGG	816
5099	Gly	Tyr	Lys	Val	Leu	Val	Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly	
5100				260					265					270			
5101																	
5102	TTT	GGG	GCG	TAT	ATG	TCT	AAG	GCA	CAC	GGT	ATT	GAC	CCC	AAC	ATC	AGA	864
5103	Phe	Gly	Ala	Tyr	Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	
5104			275					280					285				
5105																	
5106	ACT	GGG	GTA	AGG	ACC	ATT	ACC	ACA	GGC	GCC	CCC	GTC	ACA	TAC	TCT	ACC	912

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:43

INPUT SET: S31474.raw

5107	Thr	Gly	Val	Arg	Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr	
5108		290					295					300					
5109																	
5110	TAT	GGC	AAG	TTT	CTT	GCC	GAT	GGT	GGT	TGC	TCT	GGG	GGC	GCT	TAT	GAC	960
5111	Tyr	Gly	Lys	Phe	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp	
5112	305					310				315						320	
5113																	
5114	ATC	ATA	ATA	TGT	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG	1008
5115	Ile	Ile	Ile	Cys	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu	
5116					325					330					335		
5117																	
5118	GGC	ATC	GGC	ACA	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG	CGG	CTT	1056
5119	Gly	Ile	Gly	Thr	Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu	
5120				340					345					350			
5121																	
5122	GTC	GTG	CTC	GCC	ACC	GCT	ACG	CCT	CCG	GGA	TCG	GTC	ACC	GTG	CCA	CAC	1104
5123	Val	Val	Leu	Ala	Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His	
5124			355					360					365				
5125																	
5126	CCA	AAC	ATC	GAG	GAG	GTG	GCC	CTG	TCT	AAT	ACT	GGA	GAG	ATC	CCC	TTC	1152
5127	Pro	Asn	Ile	Glu	Glu	Val	Ala	Leu	Ser	Asn	Thr	Gly	Glu	Ile	Pro	Phe	
5128		370					375					380					
5129																	
5130	TAT	GGC	AAA	GCC	ATC	CCC	ATT	GAA	GCC	ATC	AGG	GGG	GGA	AGG	CAT	CTC	1200
5131	Tyr	Gly	Lys	Ala	Ile	Pro	Ile	Glu	Ala	Ile	Arg	Gly	Gly	Arg	His	Leu	
5132	385					390					395					400	
5133																	
5134	ATT	TTC	TGT	CAT	TCC	AAG	AAG	AAG	TGC	GAC	GAG	CTC	GCC	GCA	AAG	CTG	1248
5135	Ile	Phe	Cys	His	Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu	
5136				405						410					415		
5137																	
5138	TCA	GGC	CTC	GGA	ATC	AAC	GCT	GTG	GCG	TAT	TAC	CGG	GGG	CTC	GAT	GTG	1296
5139	Ser	Gly	Leu	Gly	Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val	
5140			420					425						430			
5141																	
5142	TCC	GTC	ATA	CCA	ACT	ATC	GGA	GAC	GTC	GTT	GTC	GTG	GCA	ACA	GAC	GCT	1344
5143	Ser	Val	Ile	Pro	Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala	
5144			435					440						445			
5145																	
5146	CTG	ATG	ACG	GGC	TAT	ACG	GGC	GAC	TTT	GAC	TCA	GTG	ATC	GAC	TGT	AAC	1392
5147	Leu	Met	Thr	Gly	Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn	
5148		450					455					460					
5149																	
5150	ACA	TGT	GTC	ACC	CAG	ACA	GTC	GAC	TTC	AGC	TTG	GAT	CCC	ACC	TTC	ACC	1440
5151	Thr	Cys	Val	Thr	Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr	
5152	465					470					475					480	
5153																	
5154	ATT	GAG	ACG	ACG	ACC	GTG	CCT	CAA	GAC	GCA	GTG	TCG	CGC	TCG	CAG	CGG	1488
5155	Ile	Glu	Thr	Thr	Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg	
5156				485						490					495		
5157																	
5158	CGG	GGT	AGG	ACT	GGC	AGG	GGT	AGG	AGA	GGC	ATC	TAC	AGG	TTT	GTG	ACT	1536
5159	Arg	Gly	Arg	Thr	Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr	

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:43

INPUT SET: S31474.raw

	500	505	510	
5160				
5161				
5162	CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG			1584
5163	Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu			
5164	515	520	525	
5165				
5166	TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC			1632
5167	Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr			
5168	530	535	540	
5169				
5170	TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC			1680
5171	Ser Val Arg Leu Arg Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys			
5172	545	550	555	560
5173				
5174	CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT			1728
5175	Gln Asp His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His			
5176	565	570	575	
5177				
5178	ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC			1776
5179	Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe			
5180	580	585	590	
5181				
5182	CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC			1824
5183	Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala			
5184	595	600	605	
5185				
5186	CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA			1872
5187	Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys			
5188	610	615	620	
5189				
5190	CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC			1920
5191	Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val			
5192	625	630	635	640
5193				
5194	CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA			1968
5195	Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala			
5196	645	650	655	
5197				
5198	TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT			1998
5199	Cys Met Ser Ala Asp Leu Glu Val Val Thr			
5200	660	665		

(2) INFORMATION FOR SEQ ID NO:104:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1998 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:44

INPUT SET: S31474.raw

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5213      (ix) FEATURE:
5214          (A) NAME/KEY: CDS
5215          (B) LOCATION: 1..1998
5216
5217
--> 5218      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:
5219
5220      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
5221      Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
5222          1              5              10              15
5223
5224      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
5225      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
5226          20              25              30
5227
5228      TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
5229      Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
5230          35              40              45
5231
5232      CTT GGT TGC ATC AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
5233      Leu Gly Cys Ile Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
5234          50              55              60
5235
5236      GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
5237      Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
5238          65              70              75              80
5239
5240      ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
5241      Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
5242          85              90              95
5243
5244      AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
5245      Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
5246          100              105              110
5247
5248      GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
5249      Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
5250          115              120              125
5251
5252      TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
5253      Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
5254          130              135              140
5255
5256      CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
5257      His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
5258          145              150              155              160
5259
5260      CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT      528
5261      Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly
5262          165              170              175
5263
5264      CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
5265      Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:44

INPUT SET: S31474.raw

	180	185	190	
5266				
5267				
5268	GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG			624
5269	Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu			
5270	195	200	205	
5271				
5272	TCC ATG GAA ACT ACT ATG CGG TCT CCG GTC TTC ACG GAC AAC TCA TCC			672
5273	Ser Met Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser			
5274	210	215	220	
5275				
5276	CCC CCG GCC GTA CCG CAG TCA TTT CAA GTG GCC CAC CTA CAC GCT CCC			720
5277	Pro Pro Ala Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro			
5278	225	230	235	240
5279				
5280	ACT GGC AGC GGC AAG AGT ACT AAA GTG CCG GCT GCA TAT GCA GCC CAA			768
5281	Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln			
5282	245	250	255	
5283				
5284	GGG TAC AAG GTG CTC GTC CTC AAT CCG TCC GTT GCC GCT ACC TTA GGG			816
5285	Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly			
5286	260	265	270	
5287				
5288	TTT GGG GCG TAT ATG TCT AAG GCA CAC GGT ATT GAC CCC AAC ATC AGA			864
5289	Phe Gly Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg			
5290	275	280	285	
5291				
5292	ACT GGG GTA AGG ACC ATT ACC ACA GGC GCC CCC GTC ACA TAC TCT ACC			912
5293	Thr Gly Val Arg Thr Ile Thr Thr Gly Ala Pro Val Thr Tyr Ser Thr			
5294	290	295	300	
5295				
5296	TAT GGC AAG TTT CTT GCC GAT GGT GGT TGC TCT GGG GGC GCT TAT GAC			960
5297	Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp			
5298	305	310	315	320
5299				
5300	ATC ATA ATA TGT GAT GAG TGC CAT TCA ACT GAC TCG ACT ACA ATC TTG			1008
5301	Ile Ile Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu			
5302	325	330	335	
5303				
5304	GGC ATC GGC ACA GTC CTG GAC CAA GCG GAG ACG GCT GGA GCG CGG CTT			1056
5305	Gly Ile Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu			
5306	340	345	350	
5307				
5308	GTC GTG CTC GCC ACC GCT ACG CCT CCG GGA TCG GTC ACC GTG CCA CAC			1104
5309	Val Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His			
5310	355	360	365	
5311				
5312	CCA AAC ATC GAG GAG GTG GCC CTG TCT AAT ACT GGA GAG ATC CCC TTC			1152
5313	Pro Asn Ile Glu Glu Val Ala Leu Ser Asn Thr Gly Glu Ile Pro Phe			
5314	370	375	380	
5315				
5316	TAT GGC AAA GCC ATC CCC ATT GAA GCC ATC AGG GGG GGA AGG CAT CTC			1200
5317	Tyr Gly Lys Ala Ile Pro Ile Glu Ala Ile Arg Gly Gly Arg His Leu			
5318	385	390	395	400



**INPUT SET: S31474.raw**

5319																	
5320	ATT	TTC	TGT	CAT	TCC	AAG	AAG	AAG	TGC	GAC	GAG	CTC	GCC	GCA	AAG	CTG	1248
5321	Ile	Phe	Cys	His	Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu	
5322					405					410					415		
5323																	
5324	TCA	GGC	CTC	GGA	ATC	AAC	GCT	GTG	GCG	TAT	TAC	CGG	GGG	CTC	GAT	GTG	1296
5325	Ser	Gly	Leu	Gly	Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val	
5326				420					425					430			
5327																	
5328	TCC	GTC	ATA	CCA	ACT	ATC	GGA	GAC	GTC	GTT	GTC	GTG	GCA	ACA	GAC	GCT	1344
5329	Ser	Val	Ile	Pro	Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala	
5330			435					440					445				
5331																	
5332	CTG	ATG	ACG	GGC	TAT	ACG	GGC	GAC	TTT	GAC	TCA	GTG	ATC	GAC	TGT	AAC	1392
5333	Leu	Met	Thr	Gly	Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn	
5334		450					455					460					
5335																	
5336	ACA	TGT	GTC	ACC	CAG	ACA	GTC	GAC	TTC	AGC	TTG	GAT	CCC	ACC	TTC	ACC	1440
5337	Thr	Cys	Val	Thr	Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr	
5338	465					470					475					480	
5339																	
5340	ATT	GAG	ACG	ACG	ACC	GTG	CCT	CAA	GAC	GCA	GTG	TCG	CGC	TCG	CAG	CGG	1488
5341	Ile	Glu	Thr	Thr	Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg	
5342					485				490						495		
5343																	
5344	CGG	GGT	AGG	ACT	GGC	AGG	GGT	AGG	AGA	GGC	ATC	TAC	AGG	TTT	GTG	ACT	1536
5345	Arg	Gly	Arg	Thr	Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr	
5346				500					505					510			
5347																	
5348	CCG	GGA	GAA	CGG	CCC	TCG	GGC	ATG	TTC	GAT	TCC	TCG	GTC	CTG	TGT	GAG	1584
5349	Pro	Gly	Glu	Arg	Pro	Ser	Gly	Met	Phe	Asp	Ser	Ser	Val	Leu	Cys	Glu	
5350			515					520					525				
5351																	
5352	TGC	TAT	GAC	GCG	GGC	TGT	GCT	TGG	TAC	GAG	CTC	ACC	CCC	GCC	GAG	ACC	1632
5353	Cys	Tyr	Asp	Ala	Gly	Cys	Ala	Trp	Tyr	Glu	Leu	Thr	Pro	Ala	Glu	Thr	
5354		530					535					540					
5355																	
5356	TCG	GTT	AGG	TTG	CGG	GCC	TAC	CTG	AAC	ACA	CCA	GGG	TTG	CCC	GTT	TGC	1680
5357	Ser	Val	Arg	Leu	Arg	Ala	Tyr	Leu	Asn	Thr	Pro	Gly	Leu	Pro	Val	Cys	

**INPUT SET: S31474.raw**

5372	CCA	CCT	CCA	TCA	TGG	GAT	CAA	ATG	TGG	AAG	TGT	CTC	ATA	CGG	CTG	AAA	1872
5373	Pro	Pro	Pro	Ser	Trp	Asp	Gln	Met	Trp	Lys	Cys	Leu	Ile	Arg	Leu	Lys	
5374		610					615					620					
5375																	
5376	CCT	ACG	CTG	CAC	GGG	CCA	ACA	CCC	TTG	CTG	TAC	AGG	CTG	GGA	GCC	GTC	1920
5377	Pro	Thr	Leu	His	Gly	Pro	Thr	Pro	Leu	Leu	Tyr	Arg	Leu	Gly	Ala	Val	
5378		625				630					635					640	
5379																	
5380	CAA	AAT	GAG	GTC	ACC	CTC	ACC	CAC	CCC	ATA	ACC	AAA	TAC	ATC	ATG	GCA	1968
5381	Gln	Asn	Glu	Val	Thr	Leu	Thr	His	Pro	Ile	Thr	Lys	Tyr	Ile	Met	Ala	
5382					645					650					655		
5383																	
5384	TGC	ATG	TCG	GCT	GAC	CTG	GAG	GTC	GTC	ACT							1998
5385	Cys	Met	Ser	Ala	Asp	Leu	Glu	Val	Val	Thr							
5386				660					665								

(2) INFORMATION FOR SEQ ID NO:105:

✓(2) INFORMATION FOR SEQ ID NO:105:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1998 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS  
(B) LOCATION: 1..1998

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

[illegible]

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:45

INPUT SET: S31474.raw

5425	ACC	TGC	GTC	AAC	GGC	GTG	TGT	TGG	ACC	GTT	TAC	CAT	GGT	GCT	GGC	TCA	288
5426	Thr	Cys	Val	Asn	Gly	Val	Cys	Trp	Thr	Val	Tyr	His	Gly	Ala	Gly	Ser	
5427					85					90					95		
5428																	
5429	AAG	ACC	TTA	GCC	GGC	CCA	AAG	GGG	CCA	ATC	ACC	CAG	ATG	TAC	ACT	AAT	336
5430	Lys	Thr	Leu	Ala	Gly	Pro	Lys	Gly	Pro	Ile	Thr	Gln	Met	Tyr	Thr	Asn	
5431				100					105						110		
5432																	
5433	GTG	GAC	CAG	GAC	CTC	GTC	GGC	TGG	CAG	GCG	CCC	CCC	GGG	GCG	CGT	TCC	384
5434	Val	Asp	Gln	Asp	Leu	Val	Gly	Trp	Gln	Ala	Pro	Pro	Gly	Ala	Arg	Ser	
5435			115					120					125				
5436																	
5437	TTG	ACA	CCA	TGC	ACC	TGT	GGC	AGC	TCA	GAC	CTT	TAC	TTG	GTC	ACG	AGA	432
5438	Leu	Thr	Pro	Cys	Thr	Cys	Gly	Ser	Ser	Asp	Leu	Tyr	Leu	Val	Thr	Arg	
5439		130					135					140					
5440																	
5441	CAT	GCT	GAC	GTC	ATT	CCG	GTG	CGC	CGG	CGG	GGC	GAC	AGT	AGG	GGG	AGC	480
5442	His	Ala	Asp	Val	Ile	Pro	Val	Arg	Arg	Arg	Gly	Asp	Ser	Arg	Gly	Ser	
5443	145					150					155					160	
5444																	
5445	CTG	CTC	TCC	CCC	AGG	CCT	GTC	TCC	TAC	TTG	AAG	GGC	TCT	TCG	GGT	GGT	528
5446	Leu	Leu	Ser	Pro	Arg	Pro	Val	Ser	Tyr	Leu	Lys	Gly	Ser	Ser	Gly	Gly	
5447					165					170					175		
5448																	
5449	CCA	CTG	CTC	TGC	CCT	TCG	GGG	CAC	GCT	GTG	GGC	ATC	TTC	CGG	GCT	GCC	576
5450	Pro	Leu	Leu	Cys	Pro	Ser	Gly	His	Ala	Val	Gly	Ile	Phe	Arg	Ala	Ala	
5451				180					185					190			
5452																	
5453	GTA	TGC	ACC	CGG	GGG	GTT	GCG	AAG	GCG	GTG	GAC	TTT	GTG	CCC	GTA	GAG	624
5454	Val	Cys	Thr	Arg	Gly	Val	Ala	Lys	Ala	Val	Asp	Phe	Val	Pro	Val	Glu	
5455			195					200					205				
5456																	
5457	TCC	ATG	GAA	ACT	ACT	ATG	CGG	TCT	CCG	GTC	TTC	ACG	GAC	AAC	TCA	TCC	672
5458	Ser	Met	Glu	Thr	Thr	Met	Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser	
5459		210					215					220					
5460																	
5461	CCC	CCG	GCC	GTA	CCG	CAG	TCA	TTT	CAA	GTG	GCC	CAC	CTA	CAC	GCT	CCC	720
5462	Pro	Pro	Ala	Val	Pro	Gln	Ser	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro	
5463	225					230					235					240	
5464																	
5465	ACT	GGC	AGC	GGC	AAG	AGT	ACT	AAA	GTG	CCG	GCT	GCA	TAT	GCA	GCC	CAA	768
5466	Thr	Gly	Ser	Gly	Lys	Ser	Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln	
5467					245				250					255			
5468																	
5469	GGG	TAC	AAG	GTG	CTC	GTC	CTC	AAT	CCG	TCC	GTT	GCC	GCT	ACC	TTA	GGG	816
5470	Gly	Tyr	Lys	Val	Leu	Val	Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly	
5471				260				265						270			
5472																	
5473	TTT	GGG	GCG	TAT	ATG	TCT	AAG	GCA	CAC	GGT	ATT	GAC	CCC	AAC	ATC	AGA	864
5474	Phe	Gly	Ala	Tyr	Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	
5475			275					280					285				
5476																	
5477	ACT	GGG	GTA	AGG	ACC	ATT	ACC	ACA	GGC	GCC	CCC	GTC	ACA	TAC	TCT	ACC	912

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:46

INPUT SET: S31474.raw

5478	Thr	Gly	Val	Arg	Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr	
5479		290					295					300					
5480																	
5481	TAT	GGC	AAG	TTT	CTT	GCC	GAT	GGT	GGT	TGC	TCT	GGG	GGC	GCT	TAT	GAC	960
5482	Tyr	Gly	Lys	Phe	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp	
5483	305					310				315						320	
5484																	
5485	ATC	ATA	ATA	TGT	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG	1008
5486	Ile	Ile	Ile	Cys	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu	
5487					325					330					335		
5488																	
5489	GGC	ATC	GGC	ACA	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG	CGG	CTT	1056
5490	Gly	Ile	Gly	Thr	Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu	
5491				340					345					350			
5492																	
5493	GTC	GTG	CTC	GCC	ACC	GCT	ACG	CCT	CCG	GGA	TCG	GTC	ACC	GTG	CCA	CAC	1104
5494	Val	Val	Leu	Ala	Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His	
5495			355					360					365				
5496																	
5497	CCA	AAC	ATC	GAG	GAG	GTG	GCC	CTG	TCT	AAT	ACT	GGA	GAG	ATC	CCC	TTC	1152
5498	Pro	Asn	Ile	Glu	Glu	Val	Ala	Leu	Ser	Asn	Thr	Gly	Glu	Ile	Pro	Phe	
5499		370					375					380					
5500																	
5501	TAT	GGC	AAA	GCC	ATC	CCC	ATT	GAA	GCC	ATC	AGG	GGG	GGA	AGG	CAT	CTC	1200
5502	Tyr	Gly	Lys	Ala	Ile	Pro	Ile	Glu	Ala	Ile	Arg	Gly	Gly	Arg	His	Leu	
5503	385					390					395					400	
5504																	
5505	ATT	TTC	TGT	CAT	TCC	AAG	AAG	AAG	TGC	GAC	GAG	CTC	GCC	GCA	AAG	CTG	1248
5506	Ile	Phe	Cys	His	Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu	
5507					405					410					415		
5508																	
5509	TCA	GGC	CTC	GGA	ATC	AAC	GCT	GTG	GCG	TAT	TAC	CGG	GGG	CTC	GAT	GTG	1296
5510	Ser	Gly	Leu	Gly	Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val	
5511			420					425						430			
5512																	
5513	TCC	GTC	ATA	CCA	ACT	ATC	GGA	GAC	GTC	GTT	GTC	GTG	GCA	ACA	GAC	GCT	1344
5514	Ser	Val	Ile	Pro	Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala	
5515			435					440						445			
5516																	
5517	CTG	ATG	ACG	GGC	TAT	ACG	GGC	GAC	TTT	GAC	TCA	GTG	ATC	GAC	TGT	AAC	1392
5518	Leu	Met	Thr	Gly	Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn	
5519		450					455					460					
5520																	
5521	ACA	TGT	GTC	ACC	CAG	ACA	GTC	GAC	TTC	AGC	TTG	GAT	CCC	ACC	TTC	ACC	1440
5522	Thr	Cys	Val	Thr	Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr	
5523	465					470					475					480	
5524																	
5525	ATT	GAG	ACG	ACG	ACC	GTG	CCT	CAA	GAC	GCA	GTG	TCG	CGC	TCG	CAG	CGG	1488
5526	Ile	Glu	Thr	Thr	Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg	
5527					485					490					495		
5528																	
5529	CGG	GGT	AGG	ACT	GGC	AGG	GGT	AGG	AGA	GGC	ATC	TAC	AGG	TTT	GTG	ACT	1536
5530	Arg	Gly	Arg	Thr	Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr	

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:46

INPUT SET: S31474.raw

	500	505	510	
5531				
5532				
5533	CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG			1584
5534	Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu			
5535	515	520	525	
5536				
5537	TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC			1632
5538	Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr			
5539	530	535	540	
5540				
5541	TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC			1680
5542	Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys			
5543	545	550	555	560
5544				
5545	CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT			1728
5546	Gln Asp His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His			
5547	565	570	575	
5548				
5549	ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC			1776
5550	Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe			
5551	580	585	590	
5552				
5553	CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC			1824
5554	Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala			
5555	595	600	605	
5556				
5557	CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA			1872
5558	Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys			
5559	610	615	620	
5560				
5561	CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC			1920
5562	Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val			
5563	625	630	635	640
5564				
5565	CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA			1968
5566	Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala			
5567	645	650	655	
5568				
5569	TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT			1998
5570	Cys Met Ser Ala Asp Leu Glu Val Val Thr			
5571	660	665		

(2) INFORMATION FOR SEQ ID NO:106:

- 5573 (i) SEQUENCE CHARACTERISTICS:
- 5574 (A) LENGTH: 1998 base pairs
- 5575 (B) TYPE: nucleic acid
- 5576 (C) STRANDEDNESS: single
- 5577 (D) TOPOLOGY: linear
- 5578
- 5579 (ii) MOLECULE TYPE: cDNA
- 5580
- 5581
- 5582
- 5583 (ix) FEATURE:

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:46

INPUT SET: S31474.raw

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5584      (A) NAME/KEY: CDS
5585      (B) LOCATION: 1..1998
5586
5587
--> 5588      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:
5589
5590      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
5591      Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
5592      1          5          10          15
5593
5594      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
5595      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
5596      20          25          30
5597
5598      TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
5599      Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
5600      35          40          45
5601
5602      CTT GGT TGC ATC ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
5603      Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
5604      50          55          60
5605
5606      GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
5607      Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
5608      65          70          75          80
5609
5610      ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
5611      Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser
5612      85          90          95
5613
5614      AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT      336
5615      Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn
5616      100          105          110
5617
5618      GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC      384
5619      Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser
5620      115          120          125
5621
5622      TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA      432
5623      Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg
5624      130          135          140
5625
5626      CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC      480
5627      His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser
5628      145          150          155          160
5629
5630      CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT GCT GGT GGT      528
5631      Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ala Gly Gly
5632      165          170          175
5633
5634      CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC      576
5635      Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala
5636      180          185          190

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**INPUT SET: S31474.raw**

5637																		
5638	GTA	TGC	ACC	CGG	GGG	GTT	GCG	AAG	GCG	GTG	GAC	TTT	GTG	CCC	GTA	GAG		624
5639	Val	Cys	Thr	Arg	Gly	Val	Ala	Lys	Ala	Val	Asp	Phe	Val	Pro	Val	Glu		
5640			195					200					205					
5641																		
5642	TCC	ATG	GAA	ACT	ACT	ATG	CGG	TCT	CCG	GTC	TTC	ACG	GAC	AAC	TCA	TCC		672
5643	Ser	Met	Glu	Thr	Thr	Met	Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser		
5644			210				215					220						
5645																		
5646	CCC	CCG	GCC	GTA	CCG	CAG	TCA	TTT	CAA	GTG	GCC	CAC	CTA	CAC	GCT	CCC		720
5647	Pro	Pro	Ala	Val	Pro	Gln	Ser	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro		
5648			225			230					235					240		
5649																		
5650	ACT	GGC	AGC	GGC	AAG	AGT	ACT	AAA	GTG	CCG	GCT	GCA	TAT	GCA	GCC	CAA		768
5651	Thr	Gly	Ser	Gly	Lys	Ser	Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln		
5652					245					250					255			
5653																		
5654	GGG	TAC	AAG	GTG	CTC	GTC	CTC	AAT	CCG	TCC	GTT	GCC	GCT	ACC	TTA	GGG		816
5655	Gly	Tyr	Lys	Val	Leu	Val	Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly		
5656				260					265					270				
5657																		
5658	TTT	GGG	GCG	TAT	ATG	TCT	AAG	GCA	CAC	GGT	ATT	GAC	CCC	AAC	ATC	AGA		864
5659	Phe	Gly	Ala	Tyr	Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg		
5660			275					280					285					
5661																		
5662	ACT	GGG	GTA	AGG	ACC	ATT	ACC	ACA	GGC	GCC	CCC	GTC	ACA	TAC	TCT	ACC		912
5663	Thr	Gly	Val	Arg	Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr		
5664			290				295					300						
5665																		
5666	TAT	GGC	AAG	TTT	CTT	GCC	GAT	GGT	GGT	TGC	TCT	GGG	GGC	GCT	TAT	GAC		960
5667	Tyr	Gly	Lys	Phe	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp		
5668			305			310					315					320		
5669																		
5670	ATC	ATA	ATA	TGT	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG		1008
5671	Ile	Ile	Ile	Cys	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu		
5672				325						330					335			
5673																		
5674	GGC	ATC	GGC	ACA	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG				

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:47

INPUT SET: S31474.raw

5690	ATT TTC TGT CAT TCC AAG AAG AAG TGC GAC GAG CTC GCC GCA AAG CTG	1248
5691	Ile Phe Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu	
5692	405 410 415	
5693		
5694	TCA GGC CTC GGA ATC AAC GCT GTG GCG TAT TAC CGG GGG CTC GAT GTG	1296
5695	Ser Gly Leu Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val	
5696	420 425 430	
5697		
5698	TCC GTC ATA CCA ACT ATC GGA GAC GTC GTT GTC GTG GCA ACA GAC GCT	1344
5699	Ser Val Ile Pro Thr Ile Gly Asp Val Val Val Val Ala Thr Asp Ala	
5700	435 440 445	
5701		
5702	CTG ATG ACG GGC TAT ACG GGC GAC TTT GAC TCA GTG ATC GAC TGT AAC	1392
5703	Leu Met Thr Gly Tyr Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn	
5704	450 455 460	
5705		
5706	ACA TGT GTC ACC CAG ACA GTC GAC TTC AGC TTG GAT CCC ACC TTC ACC	1440
5707	Thr Cys Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr	
5708	465 470 475 480	
5709		
5710	ATT GAG ACG ACG ACC GTG CCT CAA GAC GCA GTG TCG CGC TCG CAG CGG	1488
5711	Ile Glu Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg	
5712	485 490 495	
5713		
5714	CGG GGT AGG ACT GGC AGG GGT AGG AGA GGC ATC TAC AGG TTT GTG ACT	1536
5715	Arg Gly Arg Thr Gly Arg Gly Arg Arg Gly Ile Tyr Arg Phe Val Thr	
5716	500 505 510	
5717		
5718	CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG	1584
5719	Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu	
5720	515 520 525	
5721		
5722	TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC	1632
5723	Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr	
5724	530 535 540	
5725		
5726	TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC	1680
5727	Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys	
5728	545 550 555 560	
5729		
5730	CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT	1728
5731	Gln Asp His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His	
5732	565 570 575	
5733		
5734	ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC	1776
5735	Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe	
5736	580 585 590	
5737		
5738	CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC	1824
5739	Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala	
5740	595 600 605	
5741		
5742	CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA	1872



# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:47

INPUT SET: S31474.raw

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5743 Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys
5744      610                      615                      620
5745
5746 CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC      1920
5747 Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val
5748      625                      630                      635                      640
5749
5750 CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA      1968
5751 Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala
5752                      645                      650                      655
5753
5754 TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT      1998
5755 Cys Met Ser Ala Asp Leu Glu Val Thr
5756      660                      665
5757

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(2) INFORMATION FOR SEQ ID NO:107:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1998 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..1998

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

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5773
5774
5775 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
5776 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
5777      1                      5                      10                      15
5778
5779 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
5780 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
5781      20                      25                      30
5782
5783 TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
5784 Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
5785      35                      40                      45
5786
5787 CTT GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
5788 Leu Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
5789      50                      55                      60
5790
5791 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
5792 Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
5793      65                      70                      75                      80
5794
5795 ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999

TIME: 11:22:48

INPUT SET: S31474.raw

5796	Thr	Cys	Val	Asn	Gly	Val	Cys	Trp	Thr	Val	Tyr	His	Gly	Ala	Gly	Ser	
5797					85					90					95		
5798																	
5799	AAG	ACC	TTA	GCC	GGC	CCA	AAG	GGG	CCA	ATC	ACC	CAG	ATG	TAC	ACT	AAT	336
5800	Lys	Thr	Leu	Ala	Gly	Pro	Lys	Gly	Pro	Ile	Thr	Gln	Met	Tyr	Thr	Asn	
5801				100					105					110			
5802																	
5803	GTG	GAC	CAG	GAC	CTC	GTC	GGC	TGG	CAG	GCG	CCC	CCC	GGG	GCG	CGT	TCC	384
5804	Val	Asp	Gln	Asp	Leu	Val	Gly	Trp	Gln	Ala	Pro	Pro	Gly	Ala	Arg	Ser	
5805			115					120					125				
5806																	
5807	TTG	ACA	CCA	TGC	ACC	TGT	GGC	AGC	TCA	GAC	CTT	TAC	TTG	GTC	ACG	AGA	432
5808	Leu	Thr	Pro	Cys	Thr	Cys	Gly	Ser	Ser	Asp	Leu	Tyr	Leu	Val	Thr	Arg	
5809		130					135					140					
5810																	
5811	CAT	GCT	GAC	GTC	ATT	CCG	GTG	CGC	CGG	CGG	GGC	GAC	AGT	AGG	GGG	AGC	480
5812	His	Ala	Asp	Val	Ile	Pro	Val	Arg	Arg	Arg	Gly	Asp	Ser	Arg	Gly	Ser	
5813	145					150					155					160	
5814																	
5815	CTG	CTC	TCC	CCC	AGG	CCT	GTC	TCC	TAC	TTG	AAG	GGC	TCT	GCT	GGT	GGT	528
5816	Leu	Leu	Ser	Pro	Arg	Pro	Val	Ser	Tyr	Leu	Lys	Gly	Ser	Ala	Gly	Gly	
5817					165					170					175		
5818																	
5819	CCA	CTG	CTC	TGC	CCT	TCG	GGG	CAC	GCT	GTG	GGC	ATC	TTC	CGG	GCT	GCC	576
5820	Pro	Leu	Leu	Cys	Pro	Ser	Gly	His	Ala	Val	Gly	Ile	Phe	Arg	Ala	Ala	
5821				180					185					190			
5822																	
5823	GTA	TGC	ACC	CGG	GGG	GTT	GCG	AAG	GCG	GTG	GAC	TTT	GTG	CCC	GTA	GAG	624
5824	Val	Cys	Thr	Arg	Gly	Val	Ala	Lys	Ala	Val	Asp	Phe	Val	Pro	Val	Glu	
5825			195					200					205				
5826																	
5827	TCC	ATG	GAA	ACT	ACT	ATG	CGG	TCT	CCG	GTC	TTC	ACG	GAC	AAC	TCA	TCC	672
5828	Ser	Met	Glu	Thr	Thr	Met	Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser	
5829		210					215					220					
5830																	
5831	CCC	CCG	GCC	GTA	CCG	CAG	TCA	TTT	CAA	GTG	GCC	CAC	CTA	CAC	GCT	CCC	720
5832	Pro	Pro	Ala	Val	Pro	Gln	Ser	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro	
5833	225					230					235					240	
5834																	
5835	ACT	GGC	AGC	GGC	AAG	AGT	ACT	AAA	GTG	CCG	GCT	GCA	TAT	GCA	GCC	CAA	768
5836	Thr	Gly	Ser	Gly	Lys	Ser	Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln	
5837					245					250					255		
5838																	
5839	GGG	TAC	AAG	GTG	CTC	GTC	CTC	AAT	CCG	TCC	GTT	GCC	GCT	ACC	TTA	GGG	816
5840	Gly	Tyr	Lys	Val	Leu	Val	Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly	
5841				260				265						270			
5842																	
5843	TTT	GGG	GCG	TAT	ATG	TCT	AAG	GCA	CAC	GGT	ATT	GAC	CCC	AAC	ATC	AGA	864
5844	Phe	Gly	Ala	Tyr	Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	
5845			275					280					285				
5846																	
5847	ACT	GGG	GTA	AGG	ACC	ATT	ACC	ACA	GGC	GCC	CCC	GTC	ACA	TAC	TCT	ACC	912
5848	Thr	Gly	Val	Arg	Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr	

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:48

INPUT SET: S31474.raw

5849	290	295	300	
5850				
5851	TAT GGC AAG TTT CTT GCC GAT GGT GGT TGC TCT GGG GGC GCT TAT GAC			960
5852	Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp			
5853	305	310	315	320
5854				
5855	ATC ATA ATA TGT GAT GAG TGC CAT TCA ACT GAC TCG ACT ACA ATC TTG			1008
5856	Ile Ile Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu			
5857		325	330	335
5858				
5859	GGC ATC GGC ACA GTC CTG GAC CAA GCG GAG ACG GCT GGA GCG CGG CTT			1056
5860	Gly Ile Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu			
5861		340	345	350
5862				
5863	GTC GTG CTC GCC ACC GCT ACG CCT CCG GGA TCG GTC ACC GTG CCA CAC			1104
5864	Val Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His			
5865		355	360	365
5866				
5867	CCA AAC ATC GAG GAG GTG GCC CTG TCT AAT ACT GGA GAG ATC CCC TTC			1152
5868	Pro Asn Ile Glu Glu Val Ala Leu Ser Asn Thr Gly Glu Ile Pro Phe			
5869		370	375	380
5870				
5871	TAT GGC AAA GCC ATC CCC ATT GAA GCC ATC AGG GGG GGA AGG CAT CTC			1200
5872	Tyr Gly Lys Ala Ile Pro Ile Glu Ala Ile Arg Gly Gly Arg His Leu			
5873		385	390	395
5874				400
5875	ATT TTC TGT CAT TCC AAG AAG AAG TGC GAC GAG CTC GCC GCA AAG CTG			1248
5876	Ile Phe Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu			
5877		405	410	415
5878				
5879	TCA GGC CTC GGA ATC AAC GCT GTG GCG TAT TAC CGG GGG CTC GAT GTG			1296
5880	Ser Gly Leu Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val			
5881		420	425	430
5882				
5883	TCC GTC ATA CCA ACT ATC GGA GAC GTC GTT GTC GTG GCA ACA GAC GCT			1344
5884	Ser Val Ile Pro Thr Ile Gly Asp Val Val Val Val Ala Thr Asp Ala			
5885		435	440	445
5886				
5887	CTG ATG ACG GGC TAT ACG GGC GAC TTT GAC TCA GTG ATC GAC TGT AAC			1392
5888	Leu Met Thr Gly Tyr Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn			
5889		450	455	460
5890				
5891	ACA TGT GTC ACC CAG ACA GTC GAC TTC AGC TTG GAT CCC ACC TTC ACC			1440
5892	Thr Cys Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr			
5893		465	470	475
5894				480
5895	ATT GAG ACG ACG ACC GTG CCT CAA GAC GCA GTG TCG CGC TCG CAG CGG			1488
5896	Ile Glu Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg			
5897		485	490	495
5898				
5899	CGG GGT AGG ACT GGC AGG GGT AGG AGA GGC ATC TAC AGG TTT GTG ACT			1536
5900	Arg Gly Arg Thr Gly Arg Gly Arg Arg Gly Ile Tyr Arg Phe Val Thr			
5901		500	505	510

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:49

INPUT SET: S31474.raw

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5902
5903   CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG      1584
5904   Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu
5905           515                      520                      525
5906
5907   TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC      1632
5908   Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr
5909           530                      535                      540
5910
5911   TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC      1680
5912   Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys
5913   545                      550                      555                      560
5914
5915   CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT      1728
5916   Gln Asp His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His
5917           565                      570                      575
5918
5919   ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC      1776
5920   Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe
5921           580                      585                      590
5922
5923   CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC      1824
5924   Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala
5925           595                      600                      605
5926
5927   CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA      1872
5928   Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys
5929   610                      615                      620
5930
5931   CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC      1920
5932   Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val
5933   625                      630                      635                      640
5934
5935   CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA      1968
5936   Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala
5937           645                      650                      655
5938
5939   TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT      1998
5940   Cys Met Ser Ala Asp Leu Glu Val Val Thr
5941           660                      665

```

(2) INFORMATION FOR SEQ ID NO:108:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1998 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

**INPUT SET: S31474.raw**

5955 (A) NAME/KEY: CDS  
5956 (B) LOCATION: 1..1998

--> 5959 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108

5960																		
5961	ATG	GGC	AGC	AGC	CAT	CAT	CAT	CAT	CAT	CAC	AGC	AGC	GGC	CTG	GTG	CCG		48
5962	Met	Gly	Ser	Ser	His	His	His	His	His	His	Ser	Ser	Gly	Leu	Val	Pro		
5963	1				5					10						15		
5964																		
5965	CGC	GGC	AGC	CAT	ATG	GGT	TCT	GTT	GTT	ATT	GTT	GGT	AGA	ATT	ATT	TTA		96
5966	Arg	Gly	Ser	His	Met	Gly	Ser	Val	Val	Ile	Val	Gly	Arg	Ile	Ile	Leu		
5967				20					25					30				
5968																		
5969	TCT	GGT	AGT	GGT	AGT	ATC	ACG	GCC	TAC	TCC	CAA	CAG	ACG	CGG	GGC	CTA		144
5970	Ser	Gly	Ser	Gly	Ser	Ile	Thr	Ala	Tyr	Ser	Gln	Gln	Thr	Arg	Gly	Leu		
5971			35					40					45					
5972																		
5973	CTT	GGT	TGC	ATC	AAG	ACT	AGC	CTT	ACA	GGC	CGG	GAC	AAG	AAC	CAG	GTC		192
5974	Leu	Gly	Cys	Ile	Lys	Thr	Ser	Leu	Thr	Gly	Arg	Asp	Lys	Asn	Gln	Val		
5975		50					55					60						
5976																		
5977	GAG	GGA	GAG	GTT	CAG	GTG	GTT	TCC	ACC	GCA	ACA	CAA	TCC	TTC	CTG	GCG		240
5978	Glu	Gly	Glu	Val	Gln	Val	Val	Ser	Thr	Ala	Thr	Gln	Ser	Phe	Leu	Ala		
5979	65					70					75					80		
5980																		
5981	ACC	TGC	GTC	AAC	GGC	GTG	TGT	TGG	ACC	GTT	TAC	CAT	GGT	GCT	GGC	TCA		288
5982	Thr	Cys	Val	Asn	Gly	Val	Cys	Trp	Thr	Val	Tyr	His	Gly	Ala	Gly	Ser		
5983					85				90						95			
5984																		
5985	AAG	ACC	TTA	GCC	GGC	CCA	AAG	GGG	CCA	ATC	ACC	CAG	ATG	TAC	ACT	AAT		336
5986	Lys	Thr	Leu	Ala	Gly	Pro	Lys	Gly	Pro	Ile	Thr	Gln	Met	Tyr	Thr	Asn		
5987				100					105					110				
5988																		
5989	GTG	GAC	CAG	GAC	CTC	GTC	GGC	TGG	CAG	GCG	CCC	CCC	GGG	GCG	CGT	TCC		384
5990	Val	Asp	Gln	Asp	Leu	Val	Gly	Trp	Gln	Ala	Pro	Pro	Gly	Ala	Arg	Ser		
5991			115					120					125					
5992																		
5993	TTG	ACA	CCA	TGC	ACC	TGT	GGC	AGC	TCA	GAC	CTT	TAC	TTG	GTC	ACG	AGA		432
5994	Leu	Thr	Pro	Cys	Thr	Cys	Gly	Ser	Ser	Asp	Leu	Tyr	Leu	Val	Thr	Arg		
5995		130					135					140						
5996																		
5997	CAT	GCT	GAC	GTC	ATT	CCG	GTG	CGC	CGG	CGG	GGC	GAC	AGT	AGG	GGG	AGC		

**INPUT SET: S31474.raw**

6008																		
6009	GTA	TGC	ACC	CGG	GGG	GTT	GCG	AAG	GCG	GTG	GAC	TTT	GTG	CCC	GTA	GAG		624
6010	Val	Cys	Thr	Arg	Gly	Val	Ala	Lys	Ala	Val	Asp	Phe	Val	Pro	Val	Glu		
6011			195					200					205					
6012																		
6013	TCC	ATG	GAA	ACT	ACT	ATG	CGG	TCT	CCG	GTC	TTC	ACG	GAC	AAC	TCA	TCC		672
6014	Ser	Met	Glu	Thr	Thr	Met	Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser		
6015		210					215					220						
6016																		
6017	CCC	CCG	GCC	GTA	CCG	CAG	TCA	TTT	CAA	GTG	GCC	CAC	CTA	CAC	GCT	CCC		720
6018	Pro	Pro	Ala	Val	Pro	Gln	Ser	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro		
6019	225					230					235					240		
6020																		
6021	ACT	GGC	AGC	GGC	AAG	AGT	ACT	AAA	GTG	CCG	GCT	GCA	TAT	GCA	GCC	CAA		768
6022	Thr	Gly	Ser	Gly	Lys	Ser	Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln		
6023					245					250					255			
6024																		
6025	GGG	TAC	AAG	GTG	CTC	GTC	CTC	AAT	CCG	TCC	GTT	GCC	GCT	ACC	TTA	GGG		816
6026	Gly	Tyr	Lys	Val	Leu	Val	Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly		
6027				260					265					270				
6028																		
6029	TTT	GGG	GCG	TAT	ATG	TCT	AAG	GCA	CAC	GGT	ATT	GAC	CCC	AAC	ATC	AGA		864
6030	Phe	Gly	Ala	Tyr	Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg		
6031			275					280					285					
6032																		
6033	ACT	GGG	GTA	AGG	ACC	ATT	ACC	ACA	GGC	GCC	CCC	GTC	ACA	TAC	TCT	ACC		912
6034	Thr	Gly	Val	Arg	Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr		
6035		290					295					300						
6036																		
6037	TAT	GGC	AAG	TTT	CTT	GCC	GAT	GGT	GGT	TGC	TCT	GGG	GGC	GCT	TAT	GAC		960
6038	Tyr	Gly	Lys	Phe	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp		
6039	305					310				315						320		
6040																		
6041	ATC	ATA	ATA	TGT	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG		1008
6042	Ile	Ile	Ile	Cys	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu		
6043					325					330					335			
6044																		
6045	GGC	ATC	GGC	ACA	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG				

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:50

INPUT SET: S31474.raw

6061	ATT TTC TGT CAT TCC AAG AAG AAG TGC GAC GAG CTC GCC GCA AAG CTG	1248
6062	Ile Phe Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu	
6063	405 410 415	
6064		
6065	TCA GGC CTC GGA ATC AAC GCT GTG GCG TAT TAC CGG GGG CTC GAT GTG	1296
6066	Ser Gly Leu Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val	
6067	420 425 430	
6068		
6069	TCC GTC ATA CCA ACT ATC GGA GAC GTC GTT GTC GTG GCA ACA GAC GCT	1344
6070	Ser Val Ile Pro Thr Ile Gly Asp Val Val Val Val Ala Thr Asp Ala	
6071	435 440 445	
6072		
6073	CTG ATG ACG GGC TAT ACG GGC GAC TTT GAC TCA GTG ATC GAC TGT AAC	1392
6074	Leu Met Thr Gly Tyr Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn	
6075	450 455 460	
6076		
6077	ACA TGT GTC ACC CAG ACA GTC GAC TTC AGC TTG GAT CCC ACC TTC ACC	1440
6078	Thr Cys Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr	
6079	465 470 475 480	
6080		
6081	ATT GAG ACG ACG ACC GTG CCT CAA GAC GCA GTG TCG CGC TCG CAG CGG	1488
6082	Ile Glu Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg	
6083	485 490 495	
6084		
6085	CGG GGT AGG ACT GGC AGG GGT AGG AGA GGC ATC TAC AGG TTT GTG ACT	1536
6086	Arg Gly Arg Thr Gly Arg Gly Arg Arg Gly Ile Tyr Arg Phe Val Thr	
6087	500 505 510	
6088		
6089	CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG	1584
6090	Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu	
6091	515 520 525	
6092		
6093	TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC	1632
6094	Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr	
6095	530 535 540	
6096		
6097	TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC	1680
6098	Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys	
6099	545 550 555 560	
6100		
6101	CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT	1728
6102	Gln Asp His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His	
6103	565 570 575	
6104		
6105	ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC	1776
6106	Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe	
6107	580 585 590	
6108		
6109	CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC	1824
6110	Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala	
6111	595 600 605	
6112		
6113	CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA	1872

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:50

INPUT SET: S31474.raw

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6114 Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys
6115      610                      615                      620
6116
6117 CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC      1920
6118 Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val
6119 625                      630                      635                      640
6120
6121 CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA      1968
6122 Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala
6123                      645                      650                      655
6124
6125 TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT      1998
6126 Cys Met Ser Ala Asp Leu Glu Val Val Thr
6127      660                      665
6128
6129 (i) SEQUENCE CHARACTERISTICS:
6130 (A) LENGTH: 1998 base pairs
6131 (B) TYPE: nucleic acid
6132 (C) STRANDEDNESS: single
6133 (D) TOPOLOGY: linear
6134
6135 (ii) MOLECULE TYPE: cDNA
6136
6137
6138 (ix) FEATURE:
6139 (A) NAME/KEY: CDS
6140 (B) LOCATION: 1..1998
6141
6142
--> 6143 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:
6144
6145 ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
6146 Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
6147 1                      5                      10                      15
6148
6149 CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
6150 Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
6151      20                      25                      30
6152
6153 TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA      144
6154 Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu
6155      35                      40                      45
6156
6157 CTT GGT TGC AAG AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC      192
6158 Leu Gly Cys Lys Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val
6159      50                      55                      60
6160
6161 GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG      240
6162 Glu Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala
6163      65                      70                      75                      80
6164
6165 ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA      288
6166 Thr Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:50

INPUT SET: S31474.raw

	85	90	95	
6167				
6168				
6169	AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT			336
6170	Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn			
6171	100	105	110	
6172				
6173	GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC			384
6174	Val Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser			
6175	115	120	125	
6176				
6177	TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA			432
6178	Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg			
6179	130	135	140	
6180				
6181	CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC			480
6182	His Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser			
6183	145	150	155	160
6184				
6185	CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT GCT GGT GGT			528
6186	Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ala Gly Gly			
6187	165	170	175	
6188				
6189	CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC			576
6190	Pro Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala			
6191	180	185	190	
6192				
6193	GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG			624
6194	Val Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu			
6195	195	200	205	
6196				
6197	TCC ATG GAA ACT ACT ATG CGG TCT CCG GTC TTC ACG GAC AAC TCA TCC			672
6198	Ser Met Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser			
6199	210	215	220	
6200				
6201	CCC CCG GCC GTA CCG CAG TCA TTT CAA GTG GCC CAC CTA CAC GCT CCC			720
6202	Pro Pro Ala Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro			
6203	225	230	235	240
6204				
6205	ACT GGC AGC GGC AAG AGT ACT AAA GTG CCG GCT GCA TAT GCA GCC CAA			768
6206	Thr Gly Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln			
6207	245	250	255	
6208				
6209	GGG TAC AAG GTG CTC GTC CTC AAT CCG TCC GTT GCC GCT ACC TTA GGG			816
6210	Gly Tyr Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly			
6211	260	265	270	
6212				
6213	TTT GGG GCG TAT ATG TCT AAG GCA CAC GGT ATT GAC CCC AAC ATC AGA			864
6214	Phe Gly Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg			
6215	275	280	285	
6216				
6217	ACT GGG GTA AGG ACC ATT ACC ACA GGC GCC CCC GTC ACA TAC TCT ACC			912
6218	Thr Gly Val Arg Thr Ile Thr Thr Gly Ala Pro Val Thr Tyr Ser Thr			
6219	290	295	300	

**INPUT SET: S31474.raw**

6220																		
6221	TAT	GGC	AAG	TTT	CTT	GCC	GAT	GGT	GGT	TGC	TCT	GGG	GGC	GCT	TAT	GAC		960
6222	Tyr	Gly	Lys	Phe	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp		
6223	305					310					315					320		
6224																		
6225	ATC	ATA	ATA	TGT	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG		1008
6226	Ile	Ile	Ile	Cys	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu		
6227					325					330					335			
6228																		
6229	GGC	ATC	GGC	ACA	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG	CGG	CTT		1056
6230	Gly	Ile	Gly	Thr	Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu		
6231				340					345					350				
6232																		
6233	GTC	GTG	CTC	GCC	ACC	GCT	ACG	CCT	CCG	GGA	TCG	GTC	ACC	GTG	CCA	CAC		1104
6234	Val	Val	Leu	Ala	Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His		
6235			355					360					365					
6236																		
6237	CCA	AAC	ATC	GAG	GAG	GTG	GCC	CTG	TCT	AAT	ACT	GGA	GAG	ATC	CCC	TTC		1152
6238	Pro	Asn	Ile	Glu	Glu	Val	Ala	Leu	Ser	Asn	Thr	Gly	Glu	Ile	Pro	Phe		
6239		370					375					380						
6240																		
6241	TAT	GGC	AAA	GCC	ATC	CCC	ATT	GAA	GCC	ATC	AGG	GGG	GGA	AGG	CAT	CTC		1200
6242	Tyr	Gly	Lys	Ala	Ile	Pro	Ile	Glu	Ala	Ile	Arg	Gly	Gly	Arg	His	Leu		
6243	385					390					395					400		
6244																		
6245	ATT	TTC	TGT	CAT	TCC	AAG	AAG	AAG	TGC	GAC	GAG	CTC	GCC	GCA	AAG	CTG		1248
6246	Ile	Phe	Cys	His	Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu		
6247					405					410					415			
6248																		
6249	TCA	GGC	CTC	GGA	ATC	AAC	GCT	GTG	GCG	TAT	TAC	CGG	GGG	CTC	GAT	GTG		1296
6250	Ser	Gly	Leu	Gly	Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val		
6251				420					425					430				
6252																		
6253	TCC	GTC	ATA	CCA	ACT	ATC	GGA	GAC	GTC	GTT	GTC	GTG	GCA	ACA	GAC	GCT		1344
6254	Ser	Val	Ile	Pro	Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala		
6255			435					440					445					
6256																		
6257	CTG	ATG	ACG	GGC	TAT	ACG	GGC	GAC	TTT	GAC	TCA							

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:51

INPUT SET: S31474.raw

6273	CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG	1584
6274	Pro Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu	
6275	515 520 525	
6276		
6277	TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC	1632
6278	Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr	
6279	530 535 540	
6280		
6281	TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC	1680
6282	Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys	
6283	545 550 555 560	
6284		
6285	CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT	1728
6286	Gln Asp His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His	
6287	565 570 575	
6288		
6289	ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC	1776
6290	Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe	
6291	580 585 590	
6292		
6293	CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC	1824
6294	Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala	
6295	595 600 605	
6296		
6297	CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA	1872
6298	Pro Pro Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys	
6299	610 615 620	
6300		
6301	CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC	1920
6302	Pro Thr Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val	
6303	625 630 635 640	
6304		
6305	CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA	1968
6306	Gln Asn Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala	
6307	645 650 655	
6308		
6309	TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT	1998
6310	Cys Met Ser Ala Asp Leu Glu Val Val Thr	
6311	660 665	

(2) INFORMATION FOR SEQ ID NO:110:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2016 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS

**INPUT SET: S31474.raw**

(B) LOCATION: 1..2016

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

(B) LOCATION: 1..2016																	
6326																	
6327																	
6328																	
6329	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:																
6330																	
6331	ATG	GGC	AGC	AGC	CAT	CAT	CAT	CAT	CAT	CAC	AGC	AGC	GGC	CTG	GTG	CCG	48
6332	Met	Gly	Ser	Ser	His	His	His	His	His	His	Ser	Ser	Gly	Leu	Val	Pro	
6333	1				5					10					15		
6334																	
6335	CGC	GGC	AGC	CAT	ATG	GCT	TAC	TCT	CTG	ACT	ACG	GGT	TCT	GTT	GTT	ATT	96
6336	Arg	Gly	Ser	His	Met	Ala	Tyr	Ser	Leu	Thr	Thr	Gly	Ser	Val	Val	Ile	
6337				20					25					30			
6338																	
6339	GTT	GGT	AGA	ATT	ATT	TTA	TCT	GGT	AGT	GGT	AGT	ATC	ACG	GCC	TAC	TCC	144
6340	Val	Gly	Arg	Ile	Ile	Leu	Ser	Gly	Ser	Gly	Ser	Ile	Thr	Ala	Tyr	Ser	
6341			35					40					45				
6342																	
6343	CAA	CAG	ACG	CGG	GGC	CTA	CTT	GGT	TGC	ATC	ATC	ACT	AGC	CTT	ACA	GGC	192
6344	Gln	Gln	Thr	Arg	Gly	Leu	Leu	Gly	Cys	Ile	Ile	Thr	Ser	Leu	Thr	Gly	
6345		50					55					60					
6346																	
6347	CGG	GAC	AAG	AAC	CAG	GTC	GAG	GGA	GAG	GTT	CAG	GTG	GTT	TCC	ACC	GCA	240
6348	Arg	Asp	Lys	Asn	Gln	Val	Glu	Gly	Glu	Val	Gln	Val	Val	Ser	Thr	Ala	
6349	65					70					75					80	
6350																	
6351	ACA	CAA	TCC	TTC	CTG	GCG	ACC	TGC	GTC	AAC	GGC	GTG	TGT	TGG	ACC	GTT	288
6352	Thr	Gln	Ser	Phe	Leu	Ala	Thr	Cys	Val	Asn	Gly	Val	Cys	Trp	Thr	Val	
6353				85					90					95			
6354																	
6355	TAC	CAT	GGT	GCT	GGC	TCA	AAG	ACC	TTA	GCC	GGC	CCA	AAG	GGG	CCA	ATC	336
6356	Tyr	His	Gly	Ala	Gly	Ser	Lys	Thr	Leu	Ala	Gly	Pro	Lys	Gly	Pro	Ile	
6357				100					105					110			
6358																	
6359	ACC	CAG	ATG	TAC	ACT	AAT	GTG	GAC	CAG	GAC	CTC	GTC	GGC	TGG	CAG	GCG	384
6360	Thr	Gln	Met	Tyr	Thr	Asn	Val	Asp	Gln	Asp	Leu	Val	Gly	Trp	Gln	Ala	
6361			115					120					125				
6362																	
6363	CCC	CCC	GGG	GCG	CGT	TCC	TTG	ACA	CCA	TGC	ACC	TGT	GGC	AGC	TCA	GAC	432
6364	Pro	Pro	Gly	Ala	Arg	Ser	Leu	Thr	Pro	Cys	Thr	Cys	Gly	Ser	Ser	Asp	
6365		130					135					140					
6366																	
6367	CTT	TAC	TTG	GTC	ACG	AGA	CAT	GCT	GAC	GTC	ATT	CCG	GTG	CGC	CGG	CGG	480
6368	Leu	Tyr	Leu	Val	Thr	Arg	His	Ala	Asp	Val	Ile	Pro	Val	Arg	Arg	Arg	
6369	145					150					155					160	
6370																	
6371	GGC	GAC	AGT	AGG	GGG	AGC	CTG	CTC	TCC	CCC	AGG	CCT	GTC	TCC	TAC	TTG	528
6372	Gly	Asp															

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:52

INPUT SET: S31474.raw

6379	GGC ATC TTC CGG GCT GCC GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG	624
6380	Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val	
6381	195 200 205	
6382		
6383	GAC TTT GTG CCC GTA GAG TCC ATG GAA ACT ACT ATG CCG TCT CCG GTC	672
6384	Asp Phe Val Pro Val Glu Ser Met Glu Thr Thr Met Arg Ser Pro Val	
6385	210 215 220	
6386		
6387	TTC ACG GAC AAC TCA TCC CCC CCG GCC GTA CCG CAG TCA TTT CAA GTG	720
6388	Phe Thr Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Ser Phe Gln Val	
6389	225 230 235 240	
6390		
6391	GCC CAC CTA CAC GCT CCC ACT GGC AGC GGC AAG AGT ACT AAA GTG CCG	768
6392	Ala His Leu His Ala Pro Thr Gly Ser Gly Lys Ser Thr Lys Val Pro	
6393	245 250 255	
6394		
6395	GCT GCA TAT GCA GCC CAA GGG TAC AAG GTG CTC GTC CTC AAT CCG TCC	816
6396	Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro Ser	
6397	260 265 270	
6398		
6399	GTT GCC GCT ACC TTA GGG TTT GGG GCG TAT ATG TCT AAG GCA CAC GGT	864
6400	Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His Gly	
6401	275 280 285	
6402		
6403	ATT GAC CCC AAC ATC AGA ACT GGG GTA AGG ACC ATT ACC ACA GGC GCC	912
6404	Ile Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly Ala	
6405	290 295 300	
6406		
6407	CCC GTC ACA TAC TCT ACC TAT GGC AAG TTT CTT GCC GAT GGT GGT TGC	960
6408	Pro Val Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys	
6409	305 310 315 320	
6410		
6411	TCT GGG GGC GCT TAT GAC ATC ATA ATA TGT GAT GAG TGC CAT TCA ACT	1008
6412	Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser Thr	
6413	325 330 335	
6414		
6415	GAC TCG ACT ACA ATC TTG GGC ATC GGC ACA GTC CTG GAC CAA GCG GAG	1056
6416	Asp Ser Thr Thr Ile Leu Gly Ile Gly Thr Val Leu Asp Gln Ala Glu	
6417	340 345 350	
6418		
6419	ACG GCT GGA GCG CGG CTT GTC GTG CTC GCC ACC GCT ACG CCT CCG GGA	1104
6420	Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro Gly	
6421	355 360 365	
6422		
6423	TCG GTC ACC GTG CCA CAC CCA AAC ATC GAG GAG GTG GCC CTG TCT AAT	1152
6424	Ser Val Thr Val Pro His Pro Asn Ile Glu Glu Val Ala Leu Ser Asn	
6425	370 375 380	
6426		
6427	ACT GGA GAG ATC CCC TTC TAT GGC AAA GCC ATC CCC ATT GAA GCC ATC	1200
6428	Thr Gly Glu Ile Pro Phe Tyr Gly Lys Ala Ile Pro Ile Glu Ala Ile	
6429	385 390 395 400	
6430		
6431	AGG GGG GGA AGG CAT CTC ATT TTC TGT CAT TCC AAG AAG AAG TGC GAC	1248

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:52

INPUT SET: S31474.raw

6432	Arg Gly Gly Arg His Leu Ile Phe Cys His Ser Lys Lys Lys Cys Asp	
6433	405 410 415	
6434		
6435	GAG CTC GCC GCA AAG CTG TCA GGC CTC GGA ATC AAC GCT GTG GCG TAT	1296
6436	Glu Leu Ala Ala Lys Leu Ser Gly Leu Gly Ile Asn Ala Val Ala Tyr	
6437	420 425 430	
6438		
6439	TAC CGG GGG CTC GAT GTG TCC GTC ATA CCA ACT ATC GGA GAC GTC GTT	1344
6440	Tyr Arg Gly Leu Asp Val Ser Val Ile Pro Thr Ile Gly Asp Val Val	
6441	435 440 445	
6442		
6443	GTC GTG GCA ACA GAC GCT CTG ATG ACG GGC TAT ACG GGC GAC TTT GAC	1392
6444	Val Val Ala Thr Asp Ala Leu Met Thr Gly Tyr Thr Gly Asp Phe Asp	
6445	450 455 460	
6446		
6447	TCA GTG ATC GAC TGT AAC ACA TGT GTC ACC CAG ACA GTC GAC TTC AGC	1440
6448	Ser Val Ile Asp Cys Asn Thr Cys Val Thr Gln Thr Val Asp Phe Ser	
6449	465 470 475 480	
6450		
6451	TTG GAT CCC ACC TTC ACC ATT GAG ACG ACG ACC GTG CCT CAA GAC GCA	1488
6452	Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr Val Pro Gln Asp Ala	
6453	485 490 495	
6454		
6455	GTG TCG CGC TCG CAG CGG CGG GGT AGG ACT GGC AGG GGT AGG AGA GGC	1536
6456	Val Ser Arg Ser Gln Arg Arg Gly Arg Thr Gly Arg Gly Arg Arg Gly	
6457	500 505 510	
6458		
6459	ATC TAC AGG TTT GTG ACT CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT	1584
6460	Ile Tyr Arg Phe Val Thr Pro Gly Glu Arg Pro Ser Gly Met Phe Asp	
6461	515 520 525	
6462		
6463	TCC TCG GTC CTG TGT GAG TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG	1632
6464	Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu	
6465	530 535 540	
6466		
6467	CTC ACC CCC GCC GAG ACC TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA	1680
6468	Leu Thr Pro Ala Glu Thr Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr	
6469	545 550 555 560	
6470		
6471	CCA GGG TTG CCC GTT TGC CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC	1728
6472	Pro Gly Leu Pro Val Cys Gln Asp His Leu Glu Phe Trp Glu Ser Val	
6473	565 570 575	
6474		
6475	TTC ACA GGC CTC ACC CAT ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG	1776
6476	Phe Thr Gly Leu Thr His Ile Asp Ala His Phe Leu Ser Gln Thr Lys	
6477	580 585 590	
6478		
6479	CAG GCA GGA GAC AAC TTC CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG	1824
6480	Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val	
6481	595 600 605	
6482		
6483	TGC GCC AGG GCT CAG GCC CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG	1872
6484	Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser Trp Asp Gln Met Trp Lys	

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

 DATE: 04/15/1999  
 TIME: 11:22:52

INPUT SET: S31474.raw

6485	610	615	620	
6486				
6487	TGT CTC ATA CGG CTG AAA CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG			1920
6488	Cys Leu Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu Leu			
6489	625 630 635 640			
6490				
6491	TAC AGG CTG GGA GCC GTC CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA			1968
6492	Tyr Arg Leu Gly Ala Val Gln Asn Glu Val Thr Leu Thr His Pro Ile			
6493	645 650 655			
6494				
6495	ACC AAA TAC ATC ATG GCA TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT			2016
6496	Thr Lys Tyr Ile Met Ala Cys Met Ser Ala Asp Leu Glu Val Val Thr			
6497	660 665 670			
6498				

-dC

**(2) INFORMATION FOR SEQ ID NO:111:**

6500

6501

**(i) SEQUENCE CHARACTERISTICS:**

6502

**(A) LENGTH:** 2016 base pairs

6503

**(B) TYPE:** nucleic acid

6504

**(C) STRANDEDNESS:** single

6505

**(D) TOPOLOGY:** linear

6506

6507

**(ii) MOLECULE TYPE:** cDNA

6508

6509

6510

**(ix) FEATURE:**

6511

**(A) NAME/KEY:** CDS

6512

**(B) LOCATION:** 1..2016

6513

6514

6515

**(xi) SEQUENCE DESCRIPTION:** SEQ ID NO:111:

6516

6517	ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG	48
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6518	Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro	
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6519	1 5 10 15	
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6520

6521	CGC GGC AGC CAT ATG GCT TAC TCT CTG ACT ACG GGT TCT GTT GTT ATT	96
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6522	Arg Gly Ser His Met Ala Tyr Ser Leu Thr Thr Gly Ser Val Val Ile	
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6523	20 25 30	
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6524

6525	GTT GGT AGA ATT ATT TTA TCT GGT AGT GGT AGT ATC ACG GCC TAC TCC	144
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6526	Val Gly Arg Ile Ile Leu Ser Gly Ser Gly Ser Ile Thr Ala Tyr Ser	
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6527	35 40 45	
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6528

6529	CAA CAG ACG CGG GGC CTA CTT GGT TGC ATC ATC ACT AGC CTT ACA GGC	192
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6530	Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly	
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6531	50 55 60	
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6532

6533	CGG GAC AAG AAC CAG GTC GAG GGA GAG GTT CAG GTG GTT TCC ACC GCA	240
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6534	Arg Asp Lys Asn Gln Val Glu Gly Glu Val Gln Val Val Ser Thr Ala	
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6535	65 70 75 80	
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6536

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:53

INPUT SET: S31474.raw

6537	ACA CAA TCC TTC CTG GCG ACC TGC GTC AAC GGC GTG TGT TGG ACC GTT	288
6538	Thr Gln Ser Phe Leu Ala Thr Cys Val Asn Gly Val Cys Trp Thr Val	
6539	85 90 95	
6540		
6541	TAC CAT GGT GCT GGC TCA AAG ACC TTA GCC GGC CCA AAG GGG CCA ATC	336
6542	Tyr His Gly Ala Gly Ser Lys Thr Leu Ala Gly Pro Lys Gly Pro Ile	
6543	100 105 110	
6544		
6545	ACC CAG ATG TAC ACT AAT GTG GAC CAG GAC CTC GTC GGC TGG CAG GCG	384
6546	Thr Gln Met Tyr Thr Asn Val Asp Gln Asp Leu Val Gly Trp Gln Ala	
6547	115 120 125	
6548		
6549	CCC CCC GGG GCG CGT TCC TTG ACA CCA TGC ACC TGT GGC AGC TCA GAC	432
6550	Pro Pro Gly Ala Arg Ser Leu Thr Pro Cys Thr Cys Gly Ser Ser Asp	
6551	130 135 140	
6552		
6553	CTT TAC TTG GTC ACG AGA CAT GCT GAC GTC ATT CCG GTG CGC CGG CGG	480
6554	Leu Tyr Leu Val Thr Arg His Ala Asp Val Ile Pro Val Arg Arg Arg	
6555	145 150 155 160	
6556		
6557	GGC GAC AGT AGG GGG AGC CTG CTC TCC CCC AGG CCT GTC TCC TAC TTG	528
6558	Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro Arg Pro Val Ser Tyr Leu	
6559	165 170 175	
6560		
6561	AAG GGC TCT GCT GGT GGT CCA CTG CTC TGC CCT TCG GGG CAC GCT GTG	576
6562	Lys Gly Ser Ala Gly Gly Pro Leu Leu Cys Pro Ser Gly His Ala Val	
6563	180 185 190	
6564		
6565	GGC ATC TTC CGG GCT GCC GTA TGC ACC CGG GGG GTT GCG AAG GCG GTG	624
6566	Gly Ile Phe Arg Ala Ala Val Cys Thr Arg Gly Val Ala Lys Ala Val	
6567	195 200 205	
6568		
6569	GAC TTT GTG CCC GTA GAG TCC ATG GAA ACT ACT ATG CGG TCT CCG GTC	672
6570	Asp Phe Val Pro Val Glu Ser Met Glu Thr Thr Met Arg Ser Pro Val	
6571	210 215 220	
6572		
6573	TTC ACG GAC AAC TCA TCC CCC CCG GCC GTA CCG CAG TCA TTT CAA GTG	720
6574	Phe Thr Asp Asn Ser Ser Pro Pro Ala Val Pro Gln Ser Phe Gln Val	
6575	225 230 235 240	
6576		
6577	GCC CAC CTA CAC GCT CCC ACT GGC AGC GGC AAG AGT ACT AAA GTG CCG	768
6578	Ala His Leu His Ala Pro Thr Gly Ser Gly Lys Ser Thr Lys Val Pro	
6579	245 250 255	
6580		
6581	GCT GCA TAT GCA GCC CAA GGG TAC AAG GTG CTC GTC CTC AAT CCG TCC	816
6582	Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro Ser	
6583	260 265 270	
6584		
6585	GTT GCC GCT ACC TTA GGG TTT GGG GCG TAT ATG TCT AAG GCA CAC GGT	864
6586	Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His Gly	
6587	275 280 285	
6588		
6589	ATT GAC CCC AAC ATC AGA ACT GGG GTA AGG ACC ATT ACC ACA GGC GCC	912



# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:53

INPUT SET: S31474.raw

6590	Ile Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly Ala	
6591	290 295 300	
6592		
6593	CCC GTC ACA TAC TCT ACC TAT GGC AAG TTT CTT GCC GAT GGT GGT TGC	960
6594	Pro Val Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly Cys	
6595	305 310 315 320	
6596		
6597	TCT GGG GGC GCT TAT GAC ATC ATA ATA TGT GAT GAG TGC CAT TCA ACT	1008
6598	Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser Thr	
6599	325 330 335	
6600		
6601	GAC TCG ACT ACA ATC TTG GGC ATC GGC ACA GTC CTG GAC CAA GCG GAG	1056
6602	Asp Ser Thr Thr Ile Leu Gly Ile Gly Thr Val Leu Asp Gln Ala Glu	
6603	340 345 350	
6604		
6605	ACG GCT GGA GCG CGG CTT GTC GTG CTC GCC ACC GCT ACG CCT CCG GGA	1104
6606	Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro Gly	
6607	355 360 365	
6608		
6609	TCG GTC ACC GTG CCA CAC CCA AAC ATC GAG GAG GTG GCC CTG TCT AAT	1152
6610	Ser Val Thr Val Pro His Pro Asn Ile Glu Glu Val Ala Leu Ser Asn	
6611	370 375 380	
6612		
6613	ACT GGA GAG ATC CCC TTC TAT GGC AAA GCC ATC CCC ATT GAA GCC ATC	1200
6614	Thr Gly Glu Ile Pro Phe Tyr Gly Lys Ala Ile Pro Ile Glu Ala Ile	
6615	385 390 395 400	
6616		
6617	AGG GGG GGA AGG CAT CTC ATT TTC TGT CAT TCC AAG AAG AAG TGC GAC	1248
6618	Arg Gly Gly Arg His Leu Ile Phe Cys His Ser Lys Lys Lys Cys Asp	
6619	405 410 415	
6620		
6621	GAG CTC GCC GCA AAG CTG TCA GGC CTC GGA ATC AAC GCT GTG GCG TAT	1296
6622	Glu Leu Ala Ala Lys Leu Ser Gly Leu Gly Ile Asn Ala Val Ala Tyr	
6623	420 425 430	
6624		
6625	TAC CGG GGG CTC GAT GTG TCC GTC ATA CCA ACT ATC GGA GAC GTC GTT	1344
6626	Tyr Arg Gly Leu Asp Val Ser Val Ile Pro Thr Ile Gly Asp Val Val	
6627	435 440 445	
6628		
6629	GTC GTG GCA ACA GAC GCT CTG ATG ACG GGC TAT ACG GGC GAC TTT GAC	1392
6630	Val Val Ala Thr Asp Ala Leu Met Thr Gly Tyr Thr Gly Asp Phe Asp	
6631	450 455 460	
6632		
6633	TCA GTG ATC GAC TGT AAC ACA TGT GTC ACC CAG ACA GTC GAC TTC AGC	1440
6634	Ser Val Ile Asp Cys Asn Thr Cys Val Thr Gln Thr Val Asp Phe Ser	
6635	465 470 475 480	
6636		
6637	TTG GAT CCC ACC TTC ACC ATT GAG ACG ACG ACC GTG CCT CAA GAC GCA	1488
6638	Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr Thr Val Pro Gln Asp Ala	
6639	485 490 495	
6640		
6641	GTG TCG CGC TCG CAG CGG CGG GGT AGG ACT GGC AGG GGT AGG AGA GGC	1536
6642	Val Ser Arg Ser Gln Arg Arg Gly Arg Thr Gly Arg Gly Arg Arg Gly	

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:54

INPUT SET: S31474.raw

	500	505	510	
6643				
6644				
6645	ATC TAC AGG TTT GTG ACT CCG GGA GAA CGG CCC TCG GGC ATG TTC GAT			1584
6646	Ile Tyr Arg Phe Val Thr Pro Gly Glu Arg Pro Ser Gly Met Phe Asp			
6647	515	520	525	
6648				
6649	TCC TCG GTC CTG TGT GAG TGC TAT GAC GCG GGC TGT GCT TGG TAC GAG			1632
6650	Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu			
6651	530	535	540	
6652				
6653	CTC ACC CCC GCC GAG ACC TCG GTT AGG TTG CGG GCC TAC CTG AAC ACA			1680
6654	Leu Thr Pro Ala Glu Thr Ser Val Arg Leu Arg Ala Tyr Leu Asn Thr			
6655	545	550	555	560
6656				
6657	CCA GGG TTG CCC GTT TGC CAG GAC CAC CTG GAG TTC TGG GAG AGT GTC			1728
6658	Pro Gly Leu Pro Val Cys Gln Asp His Leu Glu Phe Trp Glu Ser Val			
6659	565	570	575	
6660				
6661	TTC ACA GGC CTC ACC CAT ATA GAT GCA CAC TTC TTG TCC CAG ACC AAG			1776
6662	Phe Thr Gly Leu Thr His Ile Asp Ala His Phe Leu Ser Gln Thr Lys			
6663	580	585	590	
6664				
6665	CAG GCA GGA GAC AAC TTC CCC TAC CTG GTA GCA TAC CAA GCC ACG GTG			1824
6666	Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val			
6667	595	600	605	
6668				
6669	TGC GCC AGG GCT CAG GCC CCA CCT CCA TCA TGG GAT CAA ATG TGG AAG			1872
6670	Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser Trp Asp Gln Met Trp Lys			
6671	610	615	620	
6672				
6673	TGT CTC ATA CGG CTG AAA CCT ACG CTG CAC GGG CCA ACA CCC TTG CTG			1920
6674	Cys Leu Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu Leu			
6675	625	630	635	640
6676				
6677	TAC AGG CTG GGA GCC GTC CAA AAT GAG GTC ACC CTC ACC CAC CCC ATA			1968
6678	Tyr Arg Leu Gly Ala Val Gln Asn Glu Val Thr Leu Thr His Pro Ile			
6679	645	650	655	
6680				
6681	ACC AAA TAC ATC ATG GCA TGC ATG TCG GCT GAC CTG GAG GTC GTC ACT			2016
6682	Thr Lys Tyr Ile Met Ala Cys Met Ser Ala Asp Leu Glu Val Val Thr			
6683	660	665	670	
6684				

6685 (2) INFORMATION FOR SEQ ID NO:112:

6686

6687 (i) SEQUENCE CHARACTERISTICS:

6688 (A) LENGTH: 648 base pairs

6689 (B) TYPE: nucleic acid

6690 (C) STRANDEDNESS: single

6691 (D) TOPOLOGY: linear

6692

6693 (ii) MOLECULE TYPE: cDNA

6694

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:54

INPUT SET: S31474.raw

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6695
6696      (ix) FEATURE:
6697          (A) NAME/KEY: CDS
6698          (B) LOCATION: 1..648
6699
6700
6701      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:
6702
6703      ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
6704      Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
6705          1              5              10              15
6706
6707      CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
6708      Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
6709          20              25              30
6710
6711      TCT CCT GCT GGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA CTT      144
6712      Ser Pro Ala Gly Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu
6713          35              40              45
6714
6715      GGT TGC ATC ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC GAG      192
6716      Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu
6717          50              55              60
6718
6719      GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG ACC      240
6720      Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr
6721          65              70              75              80
6722
6723      TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA AAG      288
6724      Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys
6725          85              90              95
6726
6727      ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT GTG      336
6728      Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val
6729          100              105              110
6730
6731      GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC TTG      384
6732      Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu
6733          115              120              125
6734
6735      ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA CAT      432
6736      Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His
6737          130              135              140
6738
6739      GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC CTG      480
6740      Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu
6741          145              150              155              160
6742
6743      CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT CCA      528
6744      Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro
6745          165              170              175
6746
6747      CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC GTA      576

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:54

INPUT SET: S31474.raw

```

6748  Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val
6749              180              185              190
6750
6751  TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG TCC      624
6752  Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser
6753              195              200              205
6754
6755  ATG GAA ACT ACT ATG CGG TCT TGA      648
6756  Met Glu Thr Thr Met Arg Ser
6757      210              215
6758
6759      (i) SEQUENCE CHARACTERISTICS:
6760          (A) LENGTH: 648 base pairs
6761          (B) TYPE: nucleic acid
6762          (C) STRANDEDNESS: single
6763          (D) TOPOLOGY: linear
6764
6765      (ii) MOLECULE TYPE: cDNA
6766
6767
6768      (ix) FEATURE:
6769          (A) NAME/KEY: CDS
6770          (B) LOCATION: 1..648
6771
6772
6773      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:113
6774
6775  ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG      48
6776  Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
6777      1              5              10              15
6778
6779  CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA      96
6780  Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu
6781              20              25              30
6782
6783  TCT CCT GCT GGT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA CTT      144
6784  Ser Pro Ala Gly Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu
6785              35              40              45
6786
6787  GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC GAG      192
6788  Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu
6789      50              55              60
6790
6791  GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG ACC      240
6792  Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr
6793      65              70              75              80
6794
6795  TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA AAG      288
6796  Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys
6797              85              90              95
6798
6799  ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT GTG      336
6800  Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:55

INPUT SET: S31474.raw

	100	105	110	
6801				
6802				
6803	GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC TTG			384
6804	Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu			
6805	115	120	125	
6806				
6807	ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA CAT			432
6808	Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His			
6809	130	135	140	
6810				
6811	GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC CTG			480
6812	Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu			
6813	145	150	155	160
6814				
6815	CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT CCA			528
6816	Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro			
6817	165	170	175	
6818				
6819	CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC GTA			576
6820	Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val			
6821	180	185	190	
6822				
6823	TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG TCC			624
6824	Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser			
6825	195	200	205	
6826				
6827	ATG GAA ACT ACT ATG CGG TCT TGA			648
6828	Met Glu Thr Thr Met Arg Ser			
6829	210	215	(2) INFORMATION FOR SEQ ID NO:114:	
6830				
6831				
6832	(i) SEQUENCE CHARACTERISTICS:			
6833	(A) LENGTH: 648 base pairs			
6834	(B) TYPE: nucleic acid			
6835	(C) STRANDEDNESS: single			
6836	(D) TOPOLOGY: linear			
6837				
6838	(ii) MOLECULE TYPE: cDNA			
6839				
6840				
6841	(ix) FEATURE:			
6842	(A) NAME/KEY: CDS			
6843	(B) LOCATION: 1..648			
6844				
6845				
--> 6846	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:			
6847				
6848	ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG			48
6849	Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro			
6850	1	5	10	15
6851				
6852	CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA			96
6853	Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu			

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:55

INPUT SET: S31474.raw

	20	25	30	
6854				
6855				
6856	TCT GGT GGT TCT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA CTT			144
6857	Ser Gly Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu			
6858	35	40	45	
6859				
6860	GGT TGC ATC ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC GAG			192
6861	Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu			
6862	50	55	60	
6863				
6864	GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG ACC			240
6865	Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr			
6866	65	70	75	80
6867				
6868	TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA AAG			288
6869	Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys			
6870	85	90	95	
6871				
6872	ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT GTG			336
6873	Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val			
6874	100	105	110	
6875				
6876	GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC TTG			384
6877	Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu			
6878	115	120	125	
6879				
6880	ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA CAT			432
6881	Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His			
6882	130	135	140	
6883				
6884	GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC CTG			480
6885	Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu			
6886	145	150	155	160
6887				
6888	CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT CCA			528
6889	Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro			
6890	165	170	175	
6891				
6892	CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC GTA			576
6893	Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val			
6894	180	185	190	
6895				
6896	TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG TCC			624
6897	Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser			
6898	195	200	205	
6899				
6900	ATG GAA ACT ACT ATG CGG TCT TGA			648
6901	Met Glu Thr Thr Met Arg Ser			
6902	210	215		
6903				
6904	(i) SEQUENCE CHARACTERISTICS:			
6905	(A) LENGTH: 648 base pairs			
6906	(B) TYPE: nucleic acid			

(2) INFORMATION FOR SEQ ID NO:115:

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999

TIME: 11:22:55

INPUT SET: S31474.raw

6907 (C) STRANDEDNESS: single  
6908 (D) TOPOLOGY: linear  
6909

6910 (ii) MOLECULE TYPE: cDNA  
6911  
6912

6913 (ix) FEATURE:  
6914 (A) NAME/KEY: CDS  
6915 (B) LOCATION: 1..648  
6916  
6917

--> 6918 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:  
6919

6920	ATG GGC AGC AGC CAT CAT CAT CAT CAT CAC AGC AGC GGC CTG GTG CCG	48
6921	Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro	
6922	1 5 10 15	
6923		
6924	CGC GGC AGC CAT ATG GGT TCT GTT GTT ATT GTT GGT AGA ATT ATT TTA	96
6925	Arg Gly Ser His Met Gly Ser Val Val Ile Val Gly Arg Ile Ile Leu	
6926	20 25 30	
6927		
6928	TCT GGT GGT TCT ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA CTT	144
6929	Ser Gly Gly Ser Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu	
6930	35 40 45	
6931		
6932	GGT TGC AAG ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC GAG	192
6933	Gly Cys Lys Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu	
6934	50 55 60	
6935		
6936	GGA GAG GTT CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG ACC	240
6937	Gly Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr	
6938	65 70 75 80	
6939		
6940	TGC GTC AAC GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA AAG	288
6941	Cys Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys	
6942	85 90 95	
6943		
6944	ACC TTA GCC GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT GTG	336
6945	Thr Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val	
6946	100 105 110	
6947		
6948	GAC CAG GAC CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC TTG	384
6949	Asp Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu	
6950	115 120 125	
6951		
6952	ACA CCA TGC ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA CAT	432
6953	Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His	
6954	130 135 140	
6955		
6956	GCT GAC GTC ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC CTG	480
6957	Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu	
6958	145 150 155 160	
6959		

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

 DATE: 04/15/1999  
 TIME: 11:22:56

INPUT SET: S31474.raw

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6960 CTC TCC CCC AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT CCA 528
6961 Leu Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro
6962 165 170 175
6963
6964 CTG CTC TGC CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC GTA 576
6965 Leu Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val
6966 180 185 190
6967
6968 TGC ACC CGG GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG TCC 624
6969 Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser
6970 195 200 205
6971
6972 ATG GAA ACT ACT ATG CGG TCT TGA 648
6973 Met Glu Thr Thr Met Arg Ser
6974 210 215
6975 (2) INFORMATION FOR SEQ ID NO:116:
6976 (i) SEQUENCE CHARACTERISTICS:
6977 (A) LENGTH: 1941 base pairs
6978 (B) TYPE: nucleic acid
6979 (C) STRANDEDNESS: single
6980 (D) TOPOLOGY: linear
6981
6982 (ii) MOLECULE TYPE: cDNA
6983
6984
6985
6986 (ix) FEATURE:
6987 (A) NAME/KEY: CDS
6988 (B) LOCATION: 1..1941
6989
6990
--> 6991 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:
6992
6993 ATG CAT ATG CAT CAT CAT CAC CAT CAT CTG GTG CCG CGC GGC AGC GCG 48
6994 Met His Met His His His His His His His Leu Val Pro Arg Gly Ser Ala
6995 1 5 10 15
6996
6997 CCC ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA CTT GGT TGC AAG 96
6998 Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Lys
6999 20 25 30
7000
7001 ATC ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC GAG GGA GAG GTT 144
7002 Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val
7003 35 40 45
7004
7005 CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG ACC TGC GTC AAC 192
7006 Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn
7007 50 55 60
7008
7009 GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA AAG ACC TTA GCC 240
7010 Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr Leu Ala
7011 65 70 75 80
7012

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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:56

INPUT SET: S31474.raw

7013	GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT GTG GAC CAG GAC	288
7014	Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp	
7015	85 90 95	
7016		
7017	CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC TTG ACA CCA TGC	336
7018	Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr Pro Cys	
7019	100 105 110	
7020		
7021	ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA CAT GCT GAC GTC	384
7022	Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val	
7023	115 120 125	
7024		
7025	ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC CTG CTC TCC CCC	432
7026	Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro	
7027	130 135 140	
7028		
7029	AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT CCA CTG CTC TGC	480
7030	Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys	
7031	145 150 155 160	
7032		
7033	CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC GTA TGC ACC CGG	528
7034	Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg	
7035	165 170 175	
7036		
7037	GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG TCC ATG GAA ACT	576
7038	Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met Glu Thr	
7039	180 185 190	
7040		
7041	ACT ATG CGG TCT CCG GTC TTC ACG GAC AAC TCA TCC CCC CCG GCC GTA	624
7042	Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala Val	
7043	195 200 205	
7044		
7045	CCG CAG TCA TTT CAA GTG GCC CAC CTA CAC GCT CCC ACT GGC AGC GGC	672
7046	Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser Gly	
7047	210 215 220	
7048		
7049	AAG AGT ACT AAA GTG CCG GCT GCA TAT GCA GCC CAA GGG TAC AAG GTG	720
7050	Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val	
7051	225 230 235 240	
7052		
7053	CTC GTC CTC AAT CCG TCC GTT GCC GCT ACC TTA GGG TTT GGG GCG TAT	768
7054	Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr	
7055	245 250 255	
7056		
7057	ATG TCT AAG GCA CAC GGT ATT GAC CCC AAC ATC AGA ACT GGG GTA AGG	816
7058	Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly Val Arg	
7059	260 265 270	
7060		
7061	ACC ATT ACC ACA GGC GCC CCC GTC ACA TAC TCT ACC TAT GGC AAG TTT	864
7062	Thr Ile Thr Thr Gly Ala Pro Val Thr Tyr Ser Thr Tyr Gly Lys Phe	
7063	275 280 285	
7064		
7065	CTT GCC GAT GGT GGT TGC TCT GGG GGC GCT TAT GAC ATC ATA ATA TGT	912

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:56

INPUT SET: S31474.raw

7066	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp	Ile	Ile	Ile	Cys	
7067		290					295					300					
7068																	
7069	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG	GGC	ATC	GGC	ACA	960
7070	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu	Gly	Ile	Gly	Thr	
7071	305					310					315					320	
7072																	
7073	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG	CGG	CTT	GTC	GTG	CTC	GCC	1008
7074	Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu	Val	Val	Leu	Ala	
7075					325					330						335	
7076																	
7077	ACC	GCT	ACG	CCT	CCG	GGA	TCG	GTC	ACC	GTG	CCA	CAC	CCA	AAC	ATC	GAG	1056
7078	Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His	Pro	Asn	Ile	Glu	
7079				340					345					350			
7080																	
7081	GAG	GTG	GCC	CTG	TCT	AAT	ACT	GGA	GAG	ATC	CCC	TTC	TAT	GGC	AAA	GCC	1104
7082	Glu	Val	Ala	Leu	Ser	Asn	Thr	Gly	Glu	Ile	Pro	Phe	Tyr	Gly	Lys	Ala	
7083			355					360					365				
7084																	
7085	ATC	CCC	ATT	GAA	GCC	ATC	AGG	GGG	GGA	AGG	CAT	CTC	ATT	TTC	TGT	CAT	1152
7086	Ile	Pro	Ile	Glu	Ala	Ile	Arg	Gly	Gly	Arg	His	Leu	Ile	Phe	Cys	His	
7087		370					375					380					
7088																	
7089	TCC	AAG	AAG	AAG	TGC	GAC	GAG	CTC	GCC	GCA	AAG	CTG	TCA	GGC	CTC	GGA	1200
7090	Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu	Ser	Gly	Leu	Gly	
7091	385					390					395					400	
7092																	
7093	ATC	AAC	GCT	GTG	GCG	TAT	TAC	CGG	GGG	CTC	GAT	GTG	TCC	GTC	ATA	CCA	1248
7094	Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val	Ser	Val	Ile	Pro	
7095					405					410					415		
7096																	
7097	ACT	ATC	GGA	GAC	GTC	GTT	GTC	GTG	GCA	ACA	GAC	GCT	CTG	ATG	ACG	GGC	1296
7098	Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala	Leu	Met	Thr	Gly	
7099				420					425					430			
7100																	
7101	TAT	ACG	GGC	GAC	TTT	GAC	TCA	GTG	ATC	GAC	TGT	AAC	ACA	TGT	GTC	ACC	1344
7102	Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn	Thr	Cys	Val	Thr	
7103			435					440					445				
7104																	
7105	CAG	ACA	GTC	GAC	TTC	AGC	TTG	GAT	CCC	ACC	TTC	ACC	ATT	GAG	ACG	ACG	1392
7106	Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr	Ile	Glu	Thr	Thr	
7107		450					455					460					
7108																	
7109	ACC	GTG	CCT	CAA	GAC	GCA	GTG	TCG	CGC	TCG	CAG	CGG	CGG	GGT	AGG	ACT	1440
7110	Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg	Arg	Gly	Arg	Thr	
7111	465					470					475					480	
7112																	
7113	GGC	AGG	GGT	AGG	AGA	GGC	ATC	TAC	AGG	TTT	GTG	ACT	CCG	GGA	GAA	CGG	1488
7114	Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr	Pro	Gly	Glu	Arg	
7115					485					490					495		
7116																	
7117	CCC	TCG	GGC	ATG	TTC	GAT	TCC	TCG	GTC	CTG	TGT	GAG	TGC	TAT	GAC	GCG	1536
7118	Pro	Ser	Gly	Met	Phe	Asp	Ser	Ser	Val	Leu	Cys	Glu	Cys	Tyr	Asp	Ala	

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:57

INPUT SET: S31474.raw

	500	505	510	
7119				
7120				
7121	GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC TCG GTT AGG TTG			1584
7122	Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val Arg Leu			
7123	515	520	525	
7124				
7125	CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC CAG GAC CAC CTG			1632
7126	Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp His Leu			
7127	530	535	540	
7128				
7129	GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT ATA GAT GCA CAC			1680
7130	Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp Ala His			
7131	545	550	555	560
7132				
7133	TTC TTG TCC CAG ACC AAG CAG GCA GGA GAC AAC TTC CCC TAC CTG GTA			1728
7134	Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val			
7135	565	570	575	
7136				
7137	GCA TAC CAA GCC ACG GTG TGC GCC AGG GCT CAG GCC CCA CCT CCA TCA			1776
7138	Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser			
7139	580	585	590	
7140				
7141	TGG GAT CAA ATG TGG AAG TGT CTC ATA CGG CTG AAA CCT ACG CTG CAC			1824
7142	Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr Leu His			
7143	595	600	605	
7144				
7145	GGG CCA ACA CCC TTG CTG TAC AGG CTG GGA GCC GTC CAA AAT GAG GTC			1872
7146	Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn Glu Val			
7147	610	615	620	
7148				
7149	ACC CTC ACC CAC CCC ATA ACC AAA TAC ATC ATG GCA TGC ATG TCG GCC			1920
7150	Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met Ser Ala			
7151	625	630	635	640
7152				
7153	GAC CTG GAG GTC GTT ACG TAG			1941
7154	Asp Leu Glu Val Val Thr			
7155	645			
7156				

--> 7157 (2) INFORMATION FOR SEQ ID NO:117:

7158

(i) SEQUENCE CHARACTERISTICS:

7160 (A) LENGTH: 1941 base pairs

7161 (B) TYPE: nucleic acid

7162 (C) STRANDEDNESS: single

7163 (D) TOPOLOGY: linear

7164

(ii) MOLECULE TYPE: cDNA

7166

7167

7168

7169

(ix) FEATURE:

7170

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:57

INPUT SET: S31474.raw

7171 (A) NAME/KEY: CDS  
7172 (B) LOCATION: 1..1941  
7173  
7174  
7175 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:  
7176  
7177 ATG CAT ATG CAT CAT CAT CAC CAT CAT CTG GTG CCG CGC GGC AGC GCG 48  
7178 Met His Met His His His His His His His Leu Val Pro Arg Gly Ser Ala  
7179 1 5 10 15  
7180  
7181 CCC ATC ACG GCC TAC TCC CAA CAG ACG CGG GGC CTA CTT GGT TGC ATC 96  
7182 Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Ile  
7183 20 25 30  
7184  
7185 AAG ACT AGC CTT ACA GGC CGG GAC AAG AAC CAG GTC GAG GGA GAG GTT 144  
7186 Lys Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val  
7187 35 40 45  
7188  
7189 CAG GTG GTT TCC ACC GCA ACA CAA TCC TTC CTG GCG ACC TGC GTC AAC 192  
7190 Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn  
7191 50 55 60  
7192  
7193 GGC GTG TGT TGG ACC GTT TAC CAT GGT GCT GGC TCA AAG ACC TTA GCC 240  
7194 Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr Leu Ala  
7195 65 70 75 80  
7196  
7197 GGC CCA AAG GGG CCA ATC ACC CAG ATG TAC ACT AAT GTG GAC CAG GAC 288  
7198 Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp  
7199 85 90 95  
7200  
7201 CTC GTC GGC TGG CAG GCG CCC CCC GGG GCG CGT TCC TTG ACA CCA TGC 336  
7202 Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr Pro Cys  
7203 100 105 110  
7204  
7205 ACC TGT GGC AGC TCA GAC CTT TAC TTG GTC ACG AGA CAT GCT GAC GTC 384  
7206 Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val  
7207 115 120 125  
7208  
7209 ATT CCG GTG CGC CGG CGG GGC GAC AGT AGG GGG AGC CTG CTC TCC CCC 432  
7210 Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro  
7211 130 135 140  
7212  
7213 AGG CCT GTC TCC TAC TTG AAG GGC TCT TCG GGT GGT CCA CTG CTC TGC 480  
7214 Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys  
7215 145 150 155 160  
7216  
7217 CCT TCG GGG CAC GCT GTG GGC ATC TTC CGG GCT GCC GTA TGC ACC CGG 528  
7218 Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg  
7219 165 170 175  
7220  
7221 GGG GTT GCG AAG GCG GTG GAC TTT GTG CCC GTA GAG TCC ATG GAA ACT 576  
7222 Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met Glu Thr  
7223 180 185 190

**INPUT SET: S31474.raw**

7224	ACT	ATG	CGG	TCT	CCG	GTC	TTC	ACG	GAC	AAC	TCA	TCC	CCC	CCG	GCC	GTA	624
7226	Thr	Met	Arg	Ser	Pro	Val	Phe	Thr	Asp	Asn	Ser	Ser	Pro	Pro	Ala	Val	
7227			195					200					205				
7228																	
7229	CCG	CAG	TCA	TTT	CAA	GTG	GCC	CAC	CTA	CAC	GCT	CCC	ACT	GGC	AGC	GGC	672
7230	Pro	Gln	Ser	Phe	Gln	Val	Ala	His	Leu	His	Ala	Pro	Thr	Gly	Ser	Gly	
7231		210					215					220					
7232																	
7233	AAG	AGT	ACT	AAA	GTG	CCG	GCT	GCA	TAT	GCA	GCC	CAA	GGG	TAC	AAG	GTG	720
7234	Lys	Ser	Thr	Lys	Val	Pro	Ala	Ala	Tyr	Ala	Ala	Gln	Gly	Tyr	Lys	Val	
7235	225					230					235					240	
7236																	
7237	CTC	GTC	CTC	AAT	CCG	TCC	GTT	GCC	GCT	ACC	TTA	GGG	TTT	GGG	GCG	TAT	768
7238	Leu	Val	Leu	Asn	Pro	Ser	Val	Ala	Ala	Thr	Leu	Gly	Phe	Gly	Ala	Tyr	
7239				245						250					255		
7240																	
7241	ATG	TCT	AAG	GCA	CAC	GGT	ATT	GAC	CCC	AAC	ATC	AGA	ACT	GGG	GTA	AGG	816
7242	Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	Thr	Gly	Val	Arg	
7243				260				265						270			
7244																	
7245	ACC	ATT	ACC	ACA	GGC	GCC	CCC	GTC	ACA	TAC	TCT	ACC	TAT	GGC	AAG	TTT	864
7246	Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr	Tyr	Gly	Lys	Phe	
7247			275					280					285				
7248																	
7249	CTT	GCC	GAT	GGT	GGT	TGC	TCT	GGG	GGC	GCT	TAT	GAC	ATC	ATA	ATA	TGT	912
7250	Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp	Ile	Ile	Ile	Cys	
7251		290					295					300					
7252																	
7253	GAT	GAG	TGC	CAT	TCA	ACT	GAC	TCG	ACT	ACA	ATC	TTG	GGC	ATC	GGC	ACA	960
7254	Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu	Gly	Ile	Gly	Thr	
7255	305					310					315					320	
7256																	
7257	GTC	CTG	GAC	CAA	GCG	GAG	ACG	GCT	GGA	GCG	CGG	CTT	GTC	GTG	CTC	GCC	1008
7258	Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu	Val	Val	Leu	Ala	
7259					325					330					335		
7260																	
7261	ACC	GCT	ACG	CCT	CCG	GGA	TCG	GTC	ACC	GTG	CCA	CAC	CCA	AAC	ATC	GAG	1056
7262	Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His	Pro	Asn	Ile	Glu	
7263				340													

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:58

INPUT SET: S31474.raw

7277	ATC AAC GCT GTG GCG TAT TAC CGG GGG CTC GAT GTG TCC GTC ATA CCA	1248
7278	Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val Ile Pro	
7279	405 410 415	
7280		
7281	ACT ATC GGA GAC GTC GTT GTC GTG GCA ACA GAC GCT CTG ATG ACG GGC	1296
7282	Thr Ile Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met Thr Gly	
7283	420 425 430	
7284		
7285	TAT ACG GGC GAC TTT GAC TCA GTG ATC GAC TGT AAC ACA TGT GTC ACC	1344
7286	Tyr Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys Val Thr	
7287	435 440 445	
7288		
7289	CAG ACA GTC GAC TTC AGC TTG GAT CCC ACC TTC ACC ATT GAG ACG ACG	1392
7290	Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr	
7291	450 455 460	
7292		
7293	ACC GTG CCT CAA GAC GCA GTG TCG CGC TCG CAG CGG CGG GGT AGG ACT	1440
7294	Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly Arg Thr	
7295	465 470 475 480	
7296		
7297	GGC AGG GGT AGG AGA GGC ATC TAC AGG TTT GTG ACT CCG GGA GAA CGG	1488
7298	Gly Arg Gly Arg Arg Gly Ile Tyr Arg Phe Val Thr Pro Gly Glu Arg	
7299	485 490 495	
7300		
7301	CCC TCG GGC ATG TTC GAT TCC TCG GTC CTG TGT GAG TGC TAT GAC GCG	1536
7302	Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala	
7303	500 505 510	
7304		
7305	GGC TGT GCT TGG TAC GAG CTC ACC CCC GCC GAG ACC TCG GTT AGG TTG	1584
7306	Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val Arg Leu	
7307	515 520 525	
7308		
7309	CGG GCC TAC CTG AAC ACA CCA GGG TTG CCC GTT TGC CAG GAC CAC CTG	1632
7310	Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp His Leu	
7311	530 535 540	
7312		
7313	GAG TTC TGG GAG AGT GTC TTC ACA GGC CTC ACC CAT ATA GAT GCA CAC	1680
7314	Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp Ala His	

7315	545				550					555					560		
7316																	
7317	TTC	TTG	TCC	CAG	ACC	AAG	CAG	GCA	GGA	GAC	AAC	TTC	CCC	TAC	CTG	GTA	1728
7318	Phe	Leu	Ser	Gln	Thr	Lys	Gln	Ala	Gly	Asp	Asn	Phe	Pro	Tyr	Leu	Val	
7319					565					570					575		
7320																	
7321	GCA	TAC	CAA	GCC	ACG	GTG	TGC	GCC	AGG	GCT	CAG	GCC	CCA	CCT	CCA	TCA	1776
7322	Ala	Tyr	Gln	Ala	Thr	Val	Cys	Ala	Arg	Ala	Gln	Ala	Pro	Pro	Pro	Ser	
7323				580					585					590			
7324																	
7325	TGG	GAT	CAA	ATG	TGG	AAG	TGT	CTC	ATA	CGG	CTG	AAA	CCT	ACG	CTG	CAC	1824
7326	Trp	Asp	Gln	Met	Trp	Lys	Cys	Leu	Ile	Arg	Leu	Lys	Pro	Thr	Leu	His	
7327			595					600					605				
7328																	
7329	GGG	CCA	ACA	CCC	TTG	CTG	TAC	AGG	CTG	GGA	GCC	GTC	CAA	AAT	GAG	GTC	1872

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/198,723ADATE: 04/15/1999  
TIME: 11:22:58

INPUT SET: S31474.raw

7330	Gly	Pro	Thr	Pro	Leu	Leu	Tyr	Arg	Leu	Gly	Ala	Val	Gln	Asn	Glu	Val	
7331		610					615					620					
7332																	
7333	ACC	CTC	ACC	CAC	CCC	ATA	ACC	AAA	TAC	ATC	ATG	GCA	TGC	ATG	TCG	GCC	1920
7334	Thr	Leu	Thr	His	Pro	Ile	Thr	Lys	Tyr	Ile	Met	Ala	Cys	Met	Ser	Ala	
7335	625					630					635					640	
7336																	
7337	GAC	CTG	GAG	GTC	GTT	ACG	TAG										1941
7338	Asp	Leu	Glu	Val	Val	Thr											
7339						645											
7340																	
7341																	

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7890	(2)	INFORMATION FOR SEQ ID NO:121:	(i)	SEQUENCE CHARACTERISTICS:	(A)	L
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# SEQUENCE VERIFICATION REPORT

## PATENT APPLICATION US/09/198,723A

DATE: 04/15/1999  
TIME: 11:22:58

INPUT SET: S31474.raw

Line	Error	Original Text
13	Number of Sequences (123) Doesn't Equal Actual Count (100)	(iii) NUMBER OF SEQUENCES: 123
4198	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:
4270	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:
4342	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:
4415	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:
4487	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:
4559	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:
4631	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:
4701	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:
4773	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:
4830	Sequence 93 thru 101 missing	(2) INFORMATION FOR SEQ ID NO:102:
5032	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:
5218	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:
5403	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:
5588	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:
5773	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:
5959	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:
6143	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:
6329	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:
6499	Sequence 103 thru 110 missing	(2) INFORMATION FOR SEQ ID NO:111:
6773	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:
6846	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:
6918	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:
6991	Wrong Sequence Number	(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:
7157	Sequence 113 thru 116 missing	(2) INFORMATION FOR SEQ ID NO:117:

(2) INFORMATION FOR SEQ ID NO:60:

- (i) SEQUENCE CHARACTERISTICS: 646  
(A) LENGTH: 668 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Met His Met His His His His His His Leu Val Pro Arg Gly Ser Ala  
1 5 10 15  
Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly Cys Lys  
20 25 30  
Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu Val  
35 40 45  
Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys Val Asn  
50 55 60  
Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr Leu Ala  
65 70 75 80  
Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp Gln Asp  
85 90 95  
Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr Pro Cys  
100 105 110  
Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp Val  
115 120 125  
Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser Pro  
130 135 140  
Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu Cys  
145 150 155 160  
Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys Thr Arg  
165 170 175  
Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met Glu Thr  
180 185 190  
Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala Val  
195 200 205  
Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser Gly  
210 215 220  
Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val  
225 230 235 240  
Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr

09/198,723

245

250

255

Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	Thr	Gly	Val	Arg
			260					265					270		
Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr	Tyr	Gly	Lys	Phe
		275					280					285			
Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp	Ile	Ile	Ile	Cys
	290					295					300				
Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu	Gly	Ile	Gly	Thr
305					310					315					320
Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu	Val	Val	Leu	Ala
				325					330					335	
Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His	Pro	Asn	Ile	Glu
			340					345					350		
Glu	Val	Ala	Leu	Ser	Asn	Thr	Gly	Glu	Ile	Pro	Phe	Tyr	Gly	Lys	Ala
		355					360					365			
Ile	Pro	Ile	Glu	Ala	Ile	Arg	Gly	Gly	Arg	His	Leu	Ile	Phe	Cys	His
	370					375					380				
Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu	Ser	Gly	Leu	Gly
385					390					395					400
Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val	Ser	Val	Ile	Pro
				405					410					415	
Thr	Ile	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala	Leu	Met	Thr	Gly
			420					425					430		
Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn	Thr	Cys	Val	Thr
		435					440					445			
Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr	Ile	Glu	Thr	Thr
		450				455					460				
Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg	Arg	Gly	Arg	Thr
465					470					475					480
Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr	Pro	Gly	Glu	Arg
				485					490					495	
Pro	Ser	Gly	Met	Phe	Asp	Ser	Ser	Val	Leu	Cys	Glu	Cys	Tyr	Asp	Ala
			500					505					510		
Gly	Cys	Ala	Trp	Tyr	Glu	Leu	Thr	Pro	Ala	Glu	Thr	Ser	Val	Arg	Leu
		515					520					525			
Arg	Ala	Tyr	Leu	Asn	Thr	Pro	Gly	Leu	Pro	Val	Cys	Gln	Asp	His	Leu
	530					535					540				
Glu	Phe	Trp	Glu	Ser	Val	Phe	Thr	Gly	Leu	Thr	His	Ile	Asp	Ala	His

*See  
next  
page*

Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val  
565 570 575

Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser  
580 585 590

Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr Leu His  
595 600 605

Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn Glu Val  
610 615 620

Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met Ser Ala  
625 630 635 640

Asp Leu Glu Val Val Thr *delete stop codon* Glu Phe Glu Leu Arg Arg Gln Ala Cys  
645 650 655

Gly Arg Thr Arg Ala Pro Pro Pro Pro Leu Arg  
660 665 20

Any group of 4 or  
more amino acids  
following a stop codon  
(\*) needs its own  
SEQ ID NO. Please  
adjust the  
(iii) NUMBER OF SEQUENCE  
response, too  
(p. 1)

(as requested)  
Examiner: The amended diskette file  
showed 646 amino acids  
in seq. 60, but did not show  
the 21 amino acids as a separate  
sequence. They are missing entirely  
from the Sequence Listing. If this  
is an error, please call 308-4212 (SMC).



09/198,723

245

250

255

Met	Ser	Lys	Ala	His	Gly	Ile	Asp	Pro	Asn	Ile	Arg	Thr	Gly	Val	Arg
			260					265					270		
Thr	Ile	Thr	Thr	Gly	Ala	Pro	Val	Thr	Tyr	Ser	Thr	Tyr	Gly	Lys	Phe
		275					280					285			
Leu	Ala	Asp	Gly	Gly	Cys	Ser	Gly	Gly	Ala	Tyr	Asp	Ile	Ile	Ile	Cys
	290					295					300				
Asp	Glu	Cys	His	Ser	Thr	Asp	Ser	Thr	Thr	Ile	Leu	Gly	Ile	Gly	Thr
305					310					315					320
Val	Leu	Asp	Gln	Ala	Glu	Thr	Ala	Gly	Ala	Arg	Leu	Val	Val	Leu	Ala
				325					330					335	
Thr	Ala	Thr	Pro	Pro	Gly	Ser	Val	Thr	Val	Pro	His	Pro	Asn	Ile	Glu
			340					345					350		
Glu	Val	Ala	Leu	Ser	Asn	Thr	Gly	Glu	Ile	Pro	Phe	Tyr	Gly	Lys	Ala
		355					360					365			
Ile	Pro	Ile	Glu	Ala	Ile	Arg	Gly	Gly	Arg	His	Leu	Ile	Phe	Cys	His
	370					375					380				
Ser	Lys	Lys	Lys	Cys	Asp	Glu	Leu	Ala	Ala	Lys	Leu	Ser	Gly	Leu	Gly
385					390					395					400
Ile	Asn	Ala	Val	Ala	Tyr	Tyr	Arg	Gly	Leu	Asp	Val	Ser	Val	Ile	Pro
				405					410					415	
Thr	Ser	Gly	Asp	Val	Val	Val	Val	Ala	Thr	Asp	Ala	Leu	Met	Thr	Gly
			420					425					430		
Tyr	Thr	Gly	Asp	Phe	Asp	Ser	Val	Ile	Asp	Cys	Asn	Thr	Cys	Val	Thr
		435					440					445			
Gln	Thr	Val	Asp	Phe	Ser	Leu	Asp	Pro	Thr	Phe	Thr	Ile	Glu	Thr	Thr
	450					455					460				
Thr	Val	Pro	Gln	Asp	Ala	Val	Ser	Arg	Ser	Gln	Arg	Arg	Gly	Arg	Thr
465					470					475					480
Gly	Arg	Gly	Arg	Arg	Gly	Ile	Tyr	Arg	Phe	Val	Thr	Pro	Gly	Glu	Arg
				485					490					495	
Pro	Ser	Gly	Met	Phe	Asp	Ser	Ser	Val	Leu	Cys	Glu	Cys	Tyr	Asp	Ala
			500					505					510		
Gly	Cys	Ala	Trp	Tyr	Glu	Leu	Thr	Pro	Ala	Glu	Thr	Ser	Val	Arg	Leu
		515					520					525			
Arg	Ala	Tyr	Leu	Asn	Thr	Pro	Gly	Leu	Pro	Val	Cys	Gln	Asp	His	Leu
	530					535					540				
Glu	Phe	Trp	Glu	Ser	Val	Phe	Thr	Gly	Leu	Thr	His	Ile	Asp	Ala	His

09/198,723

545 550 555 560

Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr Leu Val  
565 570 575

Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser  
580 585 590

Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr Leu His  
595 600 605

Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn Glu Val  
610 615 620

Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met Ser Ala  
625 630 635 640

Asp Leu Glu Val Val Thr (\*) [Glu Phe Glu Leu Arg Arg Gln Ala Cys  
645 650 655

Gly Arg Thr Arg Ala Pro Pro Pro Pro Pro Leu Arg  
10 660 15 665 20

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

*Ngrou*